Pad Print Machinery *of* Vermont

PRODUCT CATALOG

Pad Print Machines
Inkjet Printers
Ancillary Products
Custom Automation
Inks
Plates
Pads

"Engineered Printing Solutions"

To Our Valued Customers,

We are proud of the quality of our products, and our ability to provide you with the best supplies for your pad printing needs.

In today's business world, we know that customer service is a valuable commodity… and that our success depends upon your success.

Our goal remains to always give you, our customer, the best engineered product at a reasonable and fair price.

Julian Joffe
CEO

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Overview of Catalog & Services

At Pad Print Machinery of Vermont, our motto is:

We're There for You.

Our job is to take your idea from design to full realization. We offer a full line of pad printing equipment - from tabletop models to sophisticated fully automated printers.

We also design and build specialized machines to fit whatever unique application you can dream up. Plus a line of machine accessories and products including inks, pads and clichés.

This product catalog is designed to help you make educated decisions about the supplies you use every day - or to enhance your printing project.

If your customer is redesigning their logo? Suggest two-color pad printing and give us a call: *we'll help you make the upgrade.*

Do you have a new product someone brought you to print on? We'll help you pick the right ink, automate your line, pick the right pad or create a custom pad.

Log on to our Website: ***www.padprintmachinery.com***, and read more about our custom automation solutions, as well as a host of technical articles, FAQs and troubleshooting guides. We also carry a wide array of pretreatment devices, automation add-ons, dryers and conveyors to increase your productivity.

Other ways "We're There for You":

- ***Ink adhesion testing*** - *Pad Print Machinery of Vermont* can perform ink adhesion testing to determine if there is a better ink, or mixture of ink and additives, for the material you are printing on.
- ***Ink color matching*** - We can mix and match custom colors, and even mix colors to look the same on different backgrounds.
- ***Custom pad design and production*** - We have all the commonly used pads—cylindrical, square, linear, or compound and we can also custom design and manufacture your pad if your job requires it.
- ***Quantity discounts on bulk purchases*** - Ask about our bulk pricing ... it could make a difference.
- ***Expanded graphic arts & engineering departments*** - Whether it's creating artwork for a process color plate or expertly designing a CAD drawing, we'll help make your best better.
- ***Expert technical support for our machines*** - You'll never have to wonder if the pad printing machine you buy from us will last as long as your printing run, our tech support team will be there to answer and assist you with any issues.
- ***Personalized service to take your printing to the next level*** - We have a variety of pad printing machines and technical know-how to get you printing in *"living color"*.
- ***Customized parts feeders, automation & post-print handling*** - The more efficient your operator loads and unloads parts, the more in measurable cost savings for you. *We can design handling solutions for your specific needs.*
- ***Custom fixturing and tooling, engineering and production*** - We have the people and the equipment to design and execute a fixture that will leave you wondering why you waited so long.

Leading the way in ink technology

Ask our friendly customer service department about:

- *Class VI certified medical inks*
- *Oeko-Tex® 100 Standard*
- *Food grade, edible inks*
- *Non-toxic inks*
- *Inks for "difficult to stick on" substrates*
- *Glass frit firing ink- Signature "write-on" ink*
- *Custom manufactured inks for specific applications*
- *UV inkjet inks*

Determining what you need

In choosing a pad printing machine, one of the first questions we'll ask is:

What are you going to use it for?

If you're looking for light duty, you might be thinking compact. However, if brute strength and power in an industrial environment is your end use, you'll need a machine to suit your needs.

Is Pad Printing right for me?

- Do you print on uneven surfaces?
- Are you in manufacturing, production, decorating, marking, or labeling?
- Are your printing labor costs outstripping your profits?
- Is precision important in your printing job?
- Do you need a more efficient way to print parts?
- Have you ever thought about adding printing to your in-line manufacturing?

Some basic questions:

If Pad Printing is what you need, call and we'll ask a few questions:

- What is the print area, or image dimensions you want to print?
- How many colors of ink will you be using in a single image? or How many colors will you be printing together?
- What is the estimated production rate per day (or per shift)?
- What is the maximum part size you will be printing?
- Can you send details on the parts you will be printing? (*drawings or pictures*)
- What materials/substrate are the parts made of? (*wood, metal, glass, etc. if plastic: what type of plastic, polypropylene, PVC etc.*)
- What will be the average job sizes? (*i.e. how many parts would you run of a single image before changing to another image? How many of a specific item or part would you print before changing to a different item?*)
- Do you need automatic loading and unloading?
- What type of environment will the printed product endure?
- Will you want to make your own clichés or have us do it for you?

On to the machines:

The following pages provide a brief summary of our basic machine lines.
This is not intended as an exhaustive reference guide, merely an introduction.

For more detailed technical specifications, log on to our website at: ***www.padprintmachinery.com.***

KP05 and KP06/KE06

KP05 - 1 Color
Shown with standard extruded aluminum stand.

Simple & Compact

The **KP05** is a compact pad printer ideal for volume production and tagless labeling on textiles.

The printer has a fixed cup design, the cup remains stationary while the cliché moves forward and back. As the cycle starts, the pad is in the back position allowing the operator to work unobstructed while loading and unloading parts.

KP05 - 1 Color

- Single color - 90mm diam. cup or 70mm x 140mm oval cup
- Sealed inking system
- Maximum print area is 75mm diam. (2.95")
- 100 x 200mm cliché size
- Cycle speed up to 2,000 per hour.

KP05 - 2 Color

- Print two color with 2 x 70mm diam cups
- Sealed inking system
- Maximum print area is 55mm diam. (2.16")
- Two 80 x 200mm clichés
- Cycle speed up to 1,700 per hour.

Adding Automation - KP06/KE06

Both **KP06** and **KE06** are compatible with automated part handling systems and can be fitted with many automation and accessories such as:

- Catheter bed, oval cup, rotary table, flamer, automatic loader or unloader for in-line production.

KP06 - 2 Color "RR"
Shown with optional factory stand and pad cleaner.

KP06 is a very versatile electro-pneumatic pad printer and the KE06 is a servo-driven pad printer designed primarily for high speed automation with a cycle speed of up to 3,500 per hour.

KP06 - 1 Color

- Single color - 110mm diam. cup or 110mm x 200mm oval cup
- Sealed inking system
- Maximum print area is 95mm diam. (3.74")
- 120 x 250mm cliché size
- Cycle speed up to 1,800 per hour.

KP06 - 2 Color

- Print two colors with 2x 110mm diam. cup
- Sealed inking system
- Maximum print area is 95mm diam. (3.74")
- 120 x 250mm cliché size
- Cycle speed up to 1,500 per hour.

KE06 - 1 Color
Shown with optional rotary table and pad cleaner.

KP08 - 1 to 5 Colors

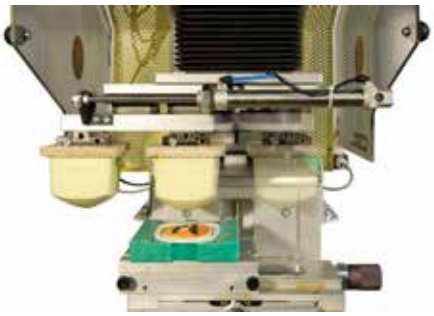
Living color - and more - KP08

The **KP08** expands your horizons with the option of printing as many as five colors. This is the smallest model that allows full-process CMYK printing with the fifth color for a solid background or spot color.

- Print 1 to 3 colors with 130mm diam. sealed cups or 110 x 220mm oval cup for single color
- 1 to 5 colors with 110 mm diam. sealed cups.
- Available with linear shuttle, elliptical or linear conveyor and rotary table
- 360° printing on products such as catheter or tubes
- Print on 2 or more pieces at the same time for higher output capacity.
- A cupslide can be added to print longer images up to 800mm (43.31").
- Easy-to-use touch screen control
- Independent pad option for printing on large irregular surface areas.
- Speed of this machine is 1,000 to 1,500 cycles per hour.

KP08 - 5 Color
Shown with optional linear shuttle and independent pads.

The **KP08** can be used in-line with flamer, rotary table and printing 1 to 5 colors using a linear or elliptical conveyors.



Pad Shuttle
2 to 3 color machines utilize the "RR" / "RRR" pad shuttle function improving multi-color print registration while parts remain stationary.

Automation options available:

- **Cupslides** - to print longer images with smaller diameter cups.
- **Pick & Place** - A device for automatic loading and unloading of parts.
- **Rotary Tables**
- **Catheter/Tube beds** - (servo or pneumatic) for 360° printing

KP08 with cupsIde and pneumatic catheter bed

KE16 - 5 Color
Shown with optional linear shuttle

The speed of servo: KE13/16/20/30

The **KE13/16/20/30** machines have a Windows® based operating system that drives a completely servo controlled print head and conveyor unit. A 20Gb hard drive allows the storage and recall hundreds of jobs with all parameters including down stroke, print and cliché pauses, and more. Remote status tracking or programming can be through Ethernet connectivity.

The small and powerful brushless motors ensure spot-on printing precision as well as a 25% increase in speed compared to the pneumatic machines.

- Available with independent pads that allow printing of multi-color logos and 4-color process. It also allows the printing of large parts such as appliance panels, hard hats, etc.
- The machine is capable of many tons of compression power, allowing virtually unlimited pad durometers.
- **KE16** includes an “auto-learn” function, whereby the operator can adjust pads and/or any ancillary devices to fine-tune the setup. The adjustments are saved to the program’s database.

Plus, they can print up to eight colors! A 5-color machine can be fitted with 250mm ink cups, and an 8-color machine can use 160mm ink cups.

ink bath

cliché on drum *rotating pads*

Rotary Pad Printer

The **Rotary Pad Printer** has a drum-shaped pad that rotates with the opposing drum shaped etched cliché. The cliché rotates in an ink bath and has an opposing doctor blade that removes the excess ink. The cliché turns and rolls the image onto the pad, which rolls the image onto the part to be decorated.

- Rotary printing heads for printing from 1 to 3 colors
- Uses steel clichés and ink containers with peristaltic pumps for recycling inks into the ink reservoir.
- Production speeds of up to 8,000 to 10,000 parts per hour or determined by the image size.

Corks printed with ***Rotary Printer***

KP13/16/20

Pneumatic with versatility and power

These are electro-pneumatic functioning pad printers with 130mm to 250mm cups respectively. High quality printing, even on an irregular surface, with for or five colors.

The touch screen panel displays machine function such as down stroke, front and back pause and speeds..

- One to five color configurations available.
- Equipped with a state-of-the-art controller and large touch screen display.
- Modular “plug and play” software and mechanical combi-style allows for a multitude of accessories - rotary, linear and elliptical conveyors, flamers, plus longer clichés for a cupslide.

KP13 - 2 Color
Shown with optional cupslide

Independent pads - *allow larger parts to be printed - with each pad mounted on its own pneumatic cylinder, the pads can operate sequentially or in unison.*

KP16 - 5 Color
Shown with optional over-under conveyor, in-line flamer and pick and place off-loading.

XP20 - 5 Color
Shown with optional linear conveyor and custom fixture.

KP04/07& KE07

The servo-driven **KE07** and its pneumatic pad-drive counterpart - the **KP04/07** are part of the growing line of pad printing machines designed for automated manufacturing environments.

The **KP04/07** are ideal for horizontal in-line printing of parts that need to stand vertically, and can also be modified to print from below onto the bottom of parts being conveyed over the printer. Two horizontal printers can also be configured to print on opposite sides of bottles or other items simultaneously.

- Adjustable for use with multiple sizes of sealed cups and clichés.
- Features a horizontal pad stroke adjustable between 45 and 90 degrees.
- Built to accept a 60mm, 90mm, 130mm or 160mm sealed cup with minimal modifications.
- Pad stroke is variable to 8 inches
- High-speed brushless servo-motor can operate at a maximum speed of **KP04/ KP07** @ 1,000 cycles per hour, **KE07** @1,500 cycles per hour.
- **KE07/KP07** come standard as a one-color, single pad machine, but can be modified to four colors or four pads printing a single color.

EAZY Series

The **EAZY 90/130/160** pad printing machines features a large diameter cup at an affordable price. Only available with a single pad these models are ideal for continuous duty production runs and sample production.

***EAZY Series** printers are ideal for textile printing and independent sample production.*

- The control panel enables the operator to set speed, pickup and print strokes, continuous and/or single cycle, plus more.
- Pneumatic operation guarantees excellent printing uniformity and independent pressure regulation on parts and cliché.
- **EAZY 90** has a 90mm diam cup (cliché 100 x 225mm)
  EAZY 130 has a 130mm diam cup (cliché 150 x 300mm)
  EAZY 160 has a 160mm diam cup (cliché 180 x 360mm)
- These machines are also easy to operate and require no special maintenance.
- Ideal pad printing machines for textile printing on all substrates production.

In-line Solutions

We have several high-speed servo-driven pad printers for use in existing or new production lines. Controls can mounted in the front or back of the printers.

**Made in USA*

PE09 - Servo-Driven

This printer was designed and built by our engineering teams. It is an all electric pad printer with an easy-to-use touch screen control for one or two color applications. The dual servo-drives run both the pad shuttle and cliché supports separately, enabling all pad and ink cup operations to be changed, including down stroke speed, pickup and drop-off pauses.

KV09 Servo-Driven

High-speed servo-driven pad printer with two motors. One for the vertical down movement of the pad and the other for the cliché slide. Controls can be mounted in the front or backside of the printer, plus accessed remotely.

Features

- Small footprint allows for easy integration to existing automation production lines.
- One or two color options available with 110mm cups or oval cup (110 x 220mm) for longer image area.
- Easy-to-use touch screen control.
- Touch screen control can be programmed remotely through wireless connection.
- Programmable pad cleaning system.
- Brushless servo motors controls Z-axis movement at 3,000 cycles per hour.

KP09 Electro-Pneumatic

Features are similar to both servo-driven printers with 2,000 parts per hour capability.

- Single color - 90 / 110 or 130mm diameter sealed cups
- Maximum print area is 75 / 95 or 115mm diameter.
- 100 x 200 / 120 x 250 or 150 x 300mm cliché sizes.
- Programmable pad cleaning system is also available on the KP09.

Customized Solutions

XE-TECH 16-20

XE-TECH

The **XE Tech 16-20** is a fully automatic, computerized gantry-based pad printing center. The system is controlled by a PC with highly sophisticated software that can be programmed to accommodate several printing points.

- Steel and aluminum construction
- Programs can be saved and stored on the PC
- Uses a magnetic head for pad picking with rotation possibility from 0 to 360°
- Can access multiple artworks etched onto a single cliché
- One movement group with pad printing head on X/Y/Z axes with brushless servo motors and rotational head
- Automatic pad changing from 3-5 pads and pad cleaning available
- Motorized fixture support bracket
- Built with perimeter security features

The **XE TECH** was designed to meet the needs of multiple surface printing, colors and pads that were managed by many units in the past. This machine can also accommodate large panels up to 1 meter x 1/2 meter.

XE-Robot *- programmed to select six pads of different shapes and sizes.*

XE Robot Pad Printing Work Station

The **XE-Robot** is a multi-faceted robotic pad printing workstation adaptable to manufacturing and assembly applications as well as traditional product marketing and decorating.

- Four-axis **SCARA** (Selective Compliant Articulated Robot Arm)
- Programmed to select from six pads of different shapes and sizes and pick up a variety of inked images from six clichés, each with its own ink cup.
- Two-axis fixture assembly allows printing on five sides of the part, in multiple locations on each side.
- Robot can be programmed to load and unload parts on the fixture between print cycles.
- Can perform drilling, screwing or assembling functions in addition to printing.
- The standard 150 x 300mm clichés can be customized to smaller or larger sizes and can be changed while the machine is running.
- The cliché support platform can be removed and replaced with an entirely different cell system of manufacturing or assembly.
- Can be reprogrammed for changes in product lines, as well as for manufacturing and assembly uses beyond product marking.
- Ideal for medium to small appliance components, electronics enclosures, equipment housings, medical devices or other manufactured parts that have several print locations on multiple sides.

Team Tagless

We are the leading U.S. distributor of top quality tagless label printers

Tagless labeling allows garment manufacturers to print directly on the fabric – eliminating the need for sewn-in tags -plus the cost and labor associated with it.

- **Direct labeling**- Fine and detailed printing directly on fabrics.
- **High Speed Productivity** - More than 1,000 prints per hour are possible.
- **Flexibility** - The print can be placed on any part of the garment.
- **Global Support** - We have many successful operations in Asia, Central and South America, Philippines, the USA and many other locations.

KP06 - 2 Color *"RR" printing on fabric. The pad shuttle function, the part remains stationary and the pads move for high quality and precision printing.*

EAZY 130
shown with optional garment rack, anvil and factory stand.

PPMOVT's textile inks have been awarded the Oeko-Tex® Standard 100, an international standardized test criteria.

Our textile inks pad printed on a T-Shirt have successfully passed tests based on more than 100 health-relevant parameters.

Single Pass Multi-Color Inkjet

XD070 Industrial Digital Inkjet

The **XD070** printer is an "image direct" from computer to print. The perfect solution for short or long runs with quick changeovers and variable data. This digital ink jet is ideal for multi-color printing on flat and semi-flat surfaces on a variety of substrates and can be customized to meet your printing needs.

- Multi-color printing in a single pass.
- High quality CMYK images using gray scale technology
- Product height and width 12 inches
- 4- color integrated RIP available with variable image data
- Fine lines and details at 14 inches per second @ 360 dpi
- Continuous circulating ink management system
- Automatic parts handling, pretreatment and vision system options available

XD070 Digital Inkjet Printer

Items printing with the ***XD070*** *Digital Ink Jet Printer*

XD100 - Monochrome / Spot Color

Simple to use inkjet printer for spot color printing on flat and semi-flat surfaces. Eliminates the need for plates and pads, create artwork directly from the desktop to computer interface.

- Spot color printing in a single pass
- Accommodates product height and width of 6 inches.
- Variable data supported for text and 1D/2D bar-code fields, serialized numbers, time/date stamp and link data to spreadsheets.
- Drop-on-demand InstaCure UV-LED ink.
- Fine lines and details at 14 inches per second / 360dpi.
- Simple and affordable shuttle slide / fixturing for parts handling.
- Can be customized to meet specific printing requirements.

Pneumatic shuttle and PC interface -
Program hundred of jobs and recall through the job queue. Custom fixturing available.

Flat-Bed Multi-Color Inkjet

fJET-24

The **fJET-24** is a multicolor flatbed UV-LED, high resolution inkjet printer, excellent for personalized souvenirs, customized gifts, industrial products and special promotional items.

- Best for flat to semi-flat materials.
- Prints high quality CMYK images using gray scale technology up to 1200 x 1200 dpi
- Bi-directional print time of complete bed surface

  - 1200 x 1200 @ 8 minutes
  - 1200 x 600 @ 4 minutes
  - 600 x 600 @ 4 minutes
- Maximum print area 20" x 24"
- Drop-on-demand UV-LED ink
- Platen height adjustment system
- **ColorPrint RIP** software with selectable droplet size
- Built-in vacuum table to hold templates and parts into printing position
- Bi- or uni-directional printing
- Large 300ml ink tanks with liquid level sensor alarm
- High-density white inks for brighter and more vivid colors on transparent and color media
- Automatic print head maintenance allows automatic purging, wiping and capping.

Custom Inkjet Printers

We have an inkjet team comprised of software and mechanical engineers, technicians and tech support staff to design and build an industrial printer to meet your specific manufacturing requirements.

Customized automation features can be fully integrated into your system including pre- and post treatment options, conveyor shuttles, vision sensing and other material handling on- and off-loading devices.

Custom Digital Inkjet - *This printer is shown in the assembly stage: additional features on this printer included an over/under conveyor, in-line flamer and special product fixturing.*

Rapid Fire Laser Cliché Maker

Rapid Fire Laser Cliché Maker

The **Rapid Fire** plate making system uses computer-to-plate laser etching technology, eliminating the need for film, chemicals and timed exposures.

***Rapid Fire Laser** comes with a complete work-station, including PC, flat screen monitor and all integrated system & graphic software*

- Direct-to-plate digital clarity without chemicals or film positives.
- Excellent for fine lines and details including half-tones and 4-color process clichés
- Shortens the prepress process and speeds up registration for multiple color pad printing applications
- Comes standard with a dedicated PC and software.
- 3" Exhaust Port with outdoor outlet required unless carbon filter air system is ordered.
- Customer must furnish a 100-150 CFM external venting unit.
- The overall dimensions of the tabletop laser:
  - Internal work area 16" x 12"
  - 25" x 44" x 25" (W x H x D)
  - 85 to 92 lbs depending on optional accessories
- Power requirements:110V/10A

***Laser etching on plates:** We supply three different polymer plates for use with the Rapid Fire*

3D Production Print System

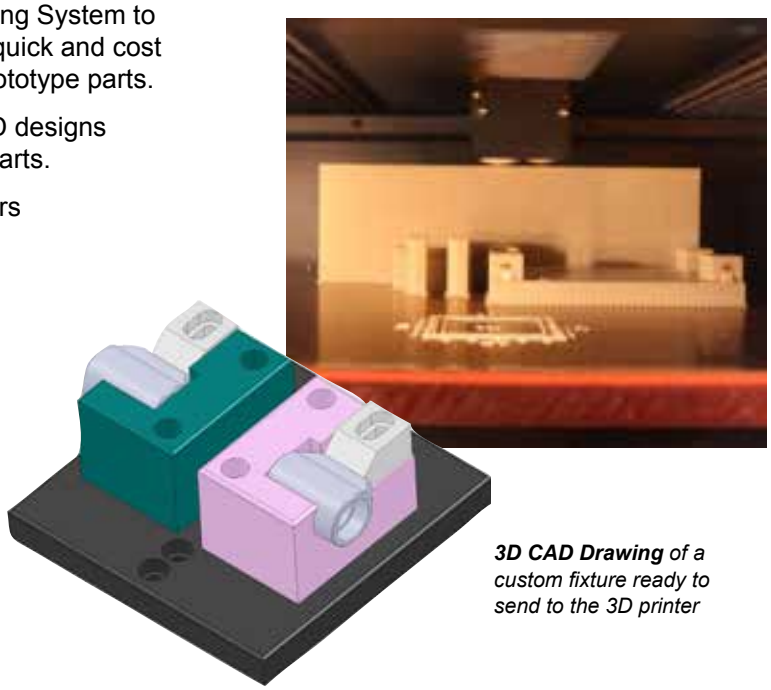
PPMOVT has acquired a 3D Production Printing System to further aid our engineering staff in producing quick and cost effective fixturing, multiple tooling sets and prototype parts.

We now have the capacity of turning our CAD designs directly into 3D product-grade thermoplastic parts.

This machine is also available to our customers looking to produce prototype parts as well.

- 3D-CAD drawings accepted
- Maximum part size - 14" x 10" x10"
- Materials available are ULTEM or PC/ABS
- Provides accurate and repeatable builds
- Parts produce within 24 hours

Call our Sales Department for more detail.



***3D CAD Drawing** of a custom fixture ready to send to the 3D printer*

Ordering a Machine

Call our toll free number: 1-800-272-7764 to speak with a Sales or Customer Service representative.

After determining what type of machine would best suit your needs, our sales team member will help determine what options and consumables you will need.

Options vary depending on the machine you're looking at, but may include:

- Steel factory stand
- Automatic pad cleaner
- Hot air dryers
- Auto-feed device
- Independent pads
- Vacuum table
- Pretreating flamer or corona unit
- Rotary, linear or elliptical conveyors
- Post-treating curing

Ancillary Products

- Cliché making
- Hot Wind
- Robot pick-and-place
- Air filtration systems
- Plate making exposure units
- Parts washing machines
- In-line and stand-alone drying units

Sample kits of various inks and pads are available to try out and see what you'll need.

Our **Engineering Department** is also standing by to help design special fixtures and custom pre- and post treatment applications for your products.

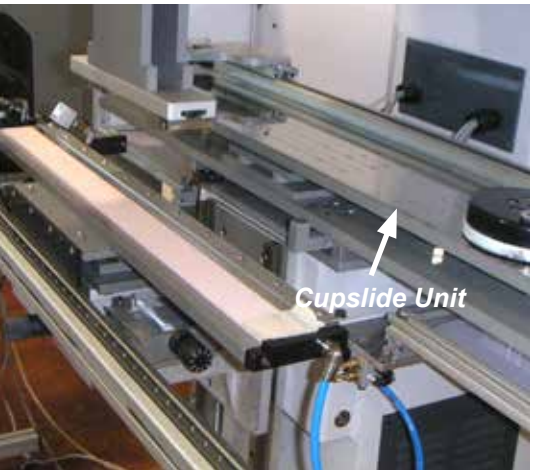
SUPERWASH 400

The following pages detail the automation add-ons, fixturing options, drying and curing units and other devices that will make your pad printing capabilities a valuable part of your production facility.

Machine Add-Ons

Doing more

From pretreating to post-print curing, *Pad Print Machinery of Vermont* is able to provide tools for your automation and production line needs. Many items are in stock and can ship the same day.
See what we have ... and imagine what we can help you get done.



Cupslides

For those who want to print on items that are longer than they are wide, we have the solution: cupslides. **Cupslides** allow small machines to print larger images, and even in multi- colors.

On a standard setup, the ink cup is mounted on the “y” axis (*perpendicular to the operator*) and inks an image smaller than the diameter of the ink cup.

With the cupslide option, the cliché and cup are mounted on the “x” axis. The cliché support can measure up to 275mm wide and 1300mm long, lying left to right on the horizontal axis.

The cupslide unit works by sliding over the length of the image, inking the etched artwork. The pad (*which is the size of the image*) picks up the image and prints onto the part. In continuous auto-cycle, the pad and cup are synchronized and the cup passes over the image only once per cycle.

Cupslide options are available with plate-sensing switches for multiple lengths, or multi-artwork supports for widths of 275mm maximum and lengths of 400, 600, 800 and 1000mm.

We also have configured cupslides with servo drive motors and multi-position cliché settings to give our customers flexibility in the lengths and French sizes a machine can print.

360° Multi-Color Printing on catheters

360° Printing

Solving a perennial problem, we are now offering a special fixture that can print 360° around a tube, catheter, wire or other cylindrical object. We have fixtures that can handle 400mm, 600mm, 800mm, 1000mm,1100mm and 1300mm (dual cup) lengths.

Also available

- Vacuum pump
- Retractable stop
- Shuttle and the rotary fixtures.

Call Customer Service (800) 272-7764 for more details.

Machine Add-Ons

Pretreating

Substrates such as polyethylene and polypropylene often require a pretreatment to allow proper ink adhesion. We offer a variety of options including corona units, flamers and chemical pre-wipes.

Flamers

Conveyor Type Pretreating Flamer

The conveyor type propane fueled flamer is designed for use with medium to large parts and is easily configured to meet the specific requirements of the end user.

It can be configured with a 360° rotational device or multiple flame nozzles for treating the parts on all sides. This unit is also easily adapted to an existing automated system and can incorporate Pick-n-Place devices for loading and off-loading, as well as sensors to detect "full/empty" status.

Stand-Alone Pretreating Flamer

The stand-alone unit is fully adjustable to accommodate small to medium sized parts. The flamer nozzle stroke is 14 inches. Controls can adjust flame intensity, fuel/air mixture, extend/retract speeds of nozzle, and platform height.

Stand-Alone Gas Flamer

Corona Units - Corona treating involves high speed oxidation. The energy of the corona breaks the molecular bonds on the surface of the non-polar substrate. The broken bonds then recombine with the free radicals in the corona environment to form additional polar groups on the film surface.

These groups have a strong chemical affinity to the inks, which result in improved adhesion. This also results in an increased surface energy, which correlates with improved wet ability.

The corona unit uses a plasma discharge that eliminates the problems associated with open flame, heat generation and combustion by-products.

*Our **Engineering Department** thrives on challenges, so let us know what your automation feeder dilemma* is -- ***and we'll engineer a fix for it.***

Feeders

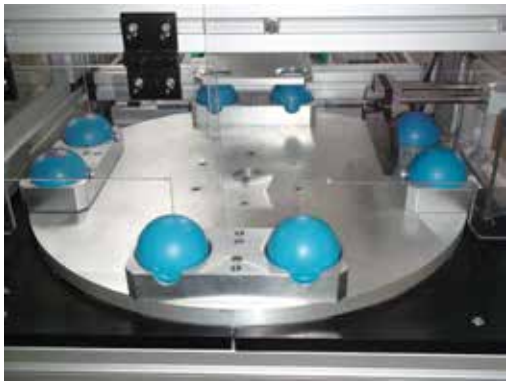
We have many options available when it comes to finding a way to feed your parts onto a fixture shuttle where they can be transported to the print heads -- and away -- with little to worry about but keeping the feeder full.

Micro-metric & Rotary Tables

Micro-metric Tables allow for precise X, Y and Z adjustments of your part fixture. Rotary Tables retrofit to most machines, and can accommodate 2 to 16 fixtures, depending on the size of the part and fixture. They are custom built with a pneumatic or electromechanical drive(s).

Pneumatic tables use an air cylinder and rack and pinion gear with ratchet system to advance the table for each rotation, which can be controlled with simple adjustments. Pneumatic tables are less costly than electromechanical ones, but are less accurate, noisier and jerkier than their mechanical counterparts.

Electro-mechanical tables have fixed divisions/advance angles and must be ordered for the application in advance -- once the table is set up, the number of stations cannot be changed.



Rotary Table

Automation Add-Ons

Linear Shuttle

Elliptical Conveyor

Linear Conveyor

Conveyors

To increase productivity, a **linear shuttle** added to the printer moves the item from one pad to the next and returns to a home position for easy loading and unloading. Increasing the number of stations, or fixtures, that can be printed at a time, increases the speed of production.
We are able to customize our various shuttle and conveyor options to suit your needs.

Conveyor options include:

Linear Shuttle: Electrically operated and controlled by a stepping motor, this shuttle can be used on 4-color and 5-color machines to precisely register the part for each color. This unit is fully programmable and capable of positioning at any center-to-center specifications.

Elliptical Conveyor: Controlled by an electric stepping motor or pneumatically with locking pins which precisely register the parts to be printed, this shuttle is used on four or five color printers to register each color and to speed up print times. Ideal for printing single or double colors on two or four parts simultaneously.

Linear Conveyor: Electrically operated and controlled by a stepping motor, these conveyors are primarily useful when automating or planning for future automation with the addition of accessories such as loaders, pre- and post-treatment stations and off-loaders. They can be designed to allow for multi-station printing on the same object in different locations or colors.

Automatic Pad Cleaner

Automatic Pad Cleaners

Our programmable automatic pad cleaning devices can be customized to fit your machine -- whether you are printing with one, two or 10 pads at a time. This system helps to reduce loss of time and ensures perfect and consistent quality of the printed pieces.

Automatic pad cleaners are a definite time saver for your operator, who currently must pause the machine, unroll the tape, manually press the tape up onto the pads, set the tape down then get ready to start printing again.

Additional Products

Between-Print Drying Times

Most ink adhesion issues can be solved by mixing the ink thoroughly between down times, checking the ink viscosity, and making sure the proper ratios of hardener, thinner and retarder are being used.

In some high speed multi-color printing applications, however, it is useful to dry the image briefly between impressions to increase the surface tension of the fresh print so the ink sticks on the next hit.

Dryers come in a number of variations, including portable external hot air blower guns, built-in “hot wind” systems, and individual blower nozzles installed at each print station.

Ask us which would work best for your application.

DP1000 - Conveyor Dryer

Post-Print Drying and Curing

While many inks dry to the touch in seconds, their hard cure time can be as long as 48 hours. *(See Ink Data Sheets on pages 23-32)*. When you need to print, pack and ship your products today, that can be a problem.

Sending the parts through an Infrared (**MT3 / MT6**), conventional or UV conveyor dryer (depending on the kind of ink being used) takes care of your drying problems, speeding up your production line and leaving you confident that the parts you print will look as good on the receiving end as the day they left the shop.

DP1000 Conveyor Dryer -- is a combination radiant heat and air dryer system. This dryer conveys printed parts through a chamber for post-treatment.

The **DP1000** dryer’s conveyor belt is 13" wide with a 6" clearance inside the chamber. The drying chamber is 28 inches long, and the overall conveyor length is 40".

The temperature at the face of the heating element reaches 700° Fahrenheit, and at belt level the temperature is approximately 300° F. The element is adjustable in height and can be lowered to increase the surface temperature of the printed part to more than 300 degrees.

The unit comes equipped with adjustable heat shields at both ends of the drying chamber and a speed control dial for the conveyor belt to control the amount of time the printed item spends in the chamber.

Infrared MT3 / MT6 - The ideal solution for the polymerization and drying of all inks on pad and/or silk screen printed surfaces.

The **MT3** and **MT6** drying process uses an infrared ray and ventilated air *(together or separately)*. Oven temperature is controlled via a digital thermostat.

MT2 - Hot Air Dryer

MT3 - Infrared Dryer

Custom Fixture, Etc

SUPERWASH XP400

Cleaning It Up

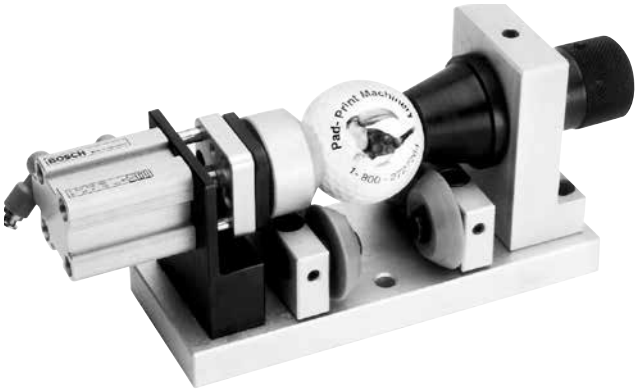
At the end of the day, there's not much less inviting than scrubbing down a pile of dirty cups and plates, spatulas and the like. That's why we carry the **SUPERWASH & MINIWASH** -- a fully automatic small parts cleaner that is used to clean ink from printing parts and tools. The **SUPERWASH & MINIWASH** are fully pneumatic and operate by spraying high-pressure jets of solvent from above, below, and onto the sides of items in the rotating basket. It takes between 10 to 20 minutes of unattended operation time to clean a load of parts.

Custom Services

Custom fixtures can be created to meet any application. If you can print it, we can figure out a way to hold it still -- with spring loading, molded rubberized polyurethane and milled aluminum, among other materials.

Our **Golf Ball Fixture** is extremely popular, available as a 360° rotational golf ball fixture for one- color printing or 180° rotational fixture for two color printing.

Custom Rotary Fixture for printing on a hard hat.



Prices

For the latest prices on pad printing accessories and consumables, call toll free ***1-800-272-7764*** and ***ask for Customer Service.***

Delivery

Stock orders will be shipped the next business day from when they were received. **Customer Service** can provide delivery dates and tracking numbers on all orders, including back orders. Some items can be shipped the same day for an additional charge.

Ink accessories are sold starting on pages 35-36

About Our Pad Printing Inks

Pad printing inks must contain a high percentage of pigment in order to yield excellent opacity and consistent print quality. Pad printing inks also use quick drying solvents which enable the ink to transfer, allowing for multiple color printing. No other printing system is as versatile for the variety of items and surfaces as pad printing.

The choice of ink is made by considering the following factors in order of importance:

- Type of material to be printed
- Surface characteristics
- Degree of brightness
- Drying requirements

We recommend performing trial tests to verify the suitability of the chosen product before starting a new project.

The following pages contain information that describe the ink's characteristics, preparation, warnings, drying times, storage, color availability, and additives.

Samples are available upon request.

The information contained in the chart and on the data sheets is based on our current knowledge. It should not be taken as binding, since the application conditions of the products are out of our control.

Passing the ink adhesion test.

Want more info about our inks?

Consult our website:
www.padprintmachinery.com

*You'll find **Material Safety Data Sheets (MSDS)** for each ink, which include ingredients, flammability, first aid measures, handling guidelines, disposal considerations, physical/ chemical properties and personal protection precautions.*

Ink and Material Table

Ink (1 or 2 components)	PLT4 2	PLT4G 2	PLT6 1 & 2	PLT9 1 & 2	PLT12 1	PLT15 1 & 2	PLT20 1 & 2	PLT272 1	PLTF 1
ABS	●			●	●	●		●	●
Butyrate	●								
Cellulose Acetate	●								
Ceramic	●	●							
Duroplast & Thermoset Plastics	■	■							
Glass	●	●							
Rubber-Silicone Rubber			●						
Powder/Coated Surfaces	●				●	●			
Leather			●		●	●			●
Imitation Leather			●		●	●			●
Wood			●		●	●			●
Ferrous and nonferrous Metals	●	●							
Paper				●	●	●			●
PET								●	
Polyacetate	●	◆		●					
Polyamide	●			●					
Polyethylene*	❖	❖		❖				❖	
Polycarbonate				●		●		●	
Polyester	●			●					
Polymethyl Methacrylate	●			●	●	●			
Polypropylene	◆	◆		◆	◆	◆	●		◆
Polyurethane			●	●					
PVC Rigid				●	●			●	
PVC Plasticized / Soft			●		●			●	●
SAN	●			●	●	●		●	●
Textiles			●						●
Vinyl			●						●
Nylon	●								

Legend

- ● *Usable for …*
- ❖ *Flaming/Plasma/Corona Pretreatment*
- ◆ *Post flaming treatment*
- ■ *Post heat treatment*

Notes:

* *Polyethylene materials must always be pretreated with a flaming/plasma or corona device. A chemical pre-wipe PW3 is available.*

Important:

** *Please test all inks/substrate combinations as changes in substrate additives and surface contaminants can affect adhesion results.*

PLT4 Data Sheet
Epoxy-based Two-component Ink

Characteristics	PLT4 ink is a two-component series ink that is dust dry in about 20 seconds. This ink has a high gloss with very good opacity, it is trouble free and easy to work with. The ink has excellent mechanical and chemical resistance. PLT4 inks contain certain aggressive solvents and care should be taken during preparation. PLT4 inks are not suitable for constant outdoor applications.
Applications	Particularly suited for printing on cellulose acetate and thermosetting materials. Especially glass reinforced polyesters, epoxide-reinforced parts, pheno- and amoniplasts, polycarbonates, acetic resins (post-treated) and polypropylene and polyethylene (pretreated). Good results on glass, metal and painted surfaces (both epoxy and powder coated).
Resistance	PLT4 has an excellent resistance to many organic solvents, chemical products and diluted acids.
Flash Point	Above 48 degrees C.
Preparation	As a two-component ink series, PLT4 should be mixed with PLH hardener and PLTA thinner before use. Mix in a ratio of 4 parts ink to 1 part hardener. It is recommended that the mixed ink be allowed to rest for 10 minutes before printing. Thin to appropriate viscosity after adding hardener. In warm climates and in the presence of fine details or screened images the use of PLTD Retarder in a small percentage is recommended.
Pot Life	***The life of the mixed ink is 8-10 hours after which the mechanical-chemical resistance and adhesion decrease. This is also dependent on room temperature and ratio of solvent.*** ***An excessive dilution causes a loss of coverage, smudges and incomplete ink transfer from the pad.***
Drying & Hardening	Generally the following drying times are applicable: **Air drying at 68° F:** Approx. 20 minutes **Heat drying at 175° F:** Approx. 2 -4 minutes **Full curing after drying:** 24 hours Items can be packed right after drying, however, curing may take up to 12 hours at room temperature. Chemical resistance tests should not be made for at least 72 hours. At that point PLT4 inks are alkai-proof and solvent-resistant. The final hardening of the ink is obtained after 5-6 days.
Range of Colors	PLT4 is available in 24 standard colors as well as 7 fluorescent & metallic shades. Mixing colors are available. PLT4 has a high light fastness equivalent to 7- 8 rating on the DIN 16525. PLT4 TP matte paste can be added to adjust standard colors to semi-gloss shades.
Process Color Printing	PLT4 inks are available in process colors PLT4 #180 Yellow, PLT4 #181 Magenta, and #182 Cyan.
Clean-up	PLTEBD Cleaner is recommended.
Storage	PLT4 has a shelf life of about 2 years. Storage containers should be sealed and placed in a cool and dry place. PLH Hardener should not be stored for long periods. The cans should be closed immediately after use, otherwise the hardener will take on moisture and become thick and ineffective.
Additives	PLH Hardener PLTA Thinner PLTD Retarder
Notes:	*Polyethylene and polypropylene need to be pretreated either by flaming or corona treating.*

PLT4G Data Sheet
Epoxy-based Two-component Ink

Characteristics	PLT4G ink is a two-component series ink that is dust dry in about 20 minutes. Remarkable for its good coverage. This ink has a semi-gloss to gloss finish depending on the printing surface. After proper curing, products printed with PLT4G may be silvered using common silver-plating methods.
Applications	Particularly suited for printing on glass, and ceramics such as glass panes, glass bottles, ornamental glasses, ceramic tiles, ferrous and non-ferrous metals. Good results are also obtained on thermo-setting materials in general.
Resistance	PLT4G has an excellence resistance to many organic solvents and chemical products. To increase the water and weather resistance, we recommend to heat the ink using an oven at 175° C for 4-6 minutes.
Flash Point	Above 48° C
Preparation	As a two-component ink, PLT4G must be mixed with PLHG hardener and thinner before use. Mix in ratio of 20 parts ink to 1 part hardener. It is recommended that the mixed ink be allowed to rest for 15-20 minutes before printing. Thin and mix well with PLTB thinner in a portion of 10-20% maximum. In warm climates and in the presence of fine details or screened images, the use of PLTD retarder in a small percentage is recommended.
Pot Life	***The life of the mixed ink is 8-10 hours after which the mechanical-chemical resistance and adhesion decrease. This is also dependent on room temperature and ratio of solvent.*** ***An excessive dilution causes a loss of coverage, smudges and incomplete ink transfer from the pad. A poor dilution may cause problems lifting the image from the cliché, affecting print quality.***
Drying & Hardening	Generally the following drying times are applicable: **Air drying at 68° F:** Approx. 35 minutes **Heated drying at 175° F:** Approx. 4-6 minutes **Full curing:** 24 hours The final hardening of the ink is obtained after 24 hours. If the printed products require exceptionally high water resistance or resistance to other substances, the ink should be baked at 284° F for 30-60 minutes.
Range of Colors	PLT4G is limited to 8 opaque colors as well as 3 transparent, four color process shades. Europa scale is available in the transparent colors. PLT4G has a high light fastness equivalent to 7-8 rating on the DIN 16525. PLT4G inks are adjusted for printing with PLTB Thinner, and PLTD Retarder for printing fine detail.
Process Color Printing	PLT4G inks are available in transparent colors PLT4G #180 Yellow, PLT4G #181 Magenta and PLT4G #182 Cyan.
Clean-up	PLTEBD Cleaner is recommended.
Storage	PLT4G has a shelf life of about 2 years. Storage containers should be sealed and placed in a cool and dry place. PLH Hardener should not be stored for long periods. The cans should be closed immediately after use, otherwise the hardener will take on moisture and become thick and ineffective.
Additives	PLHG Hardener PLTB Thinner PLTD Retarder

PLT6 Data Sheet
Acrylic-based One- or Two-component Ink

Characteristics	PLT6 ink is a single-component series ink that can also be used as a two-component ink. This ink has a semi-glossy look and is quick to dry. See on website **Oeko-Tex® Standard 100 Certification** for tagless textile label printing.
Applications	Particularly suited for printing on rubber, and natural or synthetic textile fiber such as leather and imitation leather as well as polyamide. Good results are also obtained on polyurethane and polyamide.
Resistance	Excellent mechanical and chemical resistance. If used as a two-component ink the mechanical and chemical resistance is excellent and increases its adhesion.
Flash Point	Above 43 degrees C.
Preparation	Thin and mix well the PLT6 ink with PLTCAN Thinner in a portion of 10-20% max. In warm climates and in the presence of fine details or screened images the use of PLTD Retarder in a very small percentage is recommended. If the achievement of the major mechanical or chemical resistance or a higher adhesion is required, the ink can be used also as a two-component ink series. PLT6 can be mixed with hardener PLTH in a ratio of 10 parts ink to 1 part hardener.
Pot Life	***The life of the mixed ink when used as a two-component ink is 8-10 hours after which the mechanical-chemical resistance and adhesion decreases. This is also dependent on room temperature and ratio of solvent.*** ***An excessive dilution causes a loss of coverage, smudge and incomplete ink detachment from the pad. A poor dilution may cause problems withdrawing ink from the cliché obtaining a repetitive print quality and avoiding the "dripping" of the same ink with lower print quality.***
Drying & Hardening	Generally the following drying times are applicable: **Hand drying at 68° F:** Approx. 1-2 minutes Drying time can be accelerated by using ovens with circulating hot air or spot devices at high temperatures. The final hardening of the ink is obtained after 24 hours.
Range of Colors	PLT6 is available in 22 standard colors. Europa scale is available in transparent colors. PLT6 has a high light fastness equivalent to 7-8 rating DIN fastness. PLT6 inks are adjusted for printing with PLTCAN Fast Thinner, PLTA Thinner and PLTD Retarder for printing fine detail.
Process Color Printing	PLT6 inks are available in transparent colors PLT6 #180 Yellow, PLT6 #181 Magenta and PLT6 #182 Cyan.
Clean-up	PLTEBD recommended.
Storage	PLT6 has a shelf life of about 2 years. Storage containers should be sealed and placed in a cool dry place. PLH hardener should not be stored for long periods. The cans should be closed immediately after use, otherwise the hardener will become thick and useless.
Additives	PLH Hardener PLTCAN Thinner (This is different from other inks). PLTA Thinner PLTD Retarder

PLT9 Data Sheet
Acrylic-based One- or Two-component Ink

Characteristics	PLT9 is a one- or two-component ink that has a high-gloss finish with very good opacity.
Applications	Particularly suited for printing on ABS, SAN, polycarbonate PC, rigid PVC, polyamide PA, polymethylmethacrylate PMMA, polypropylene and polyethylene (pretreated). Good results are also obtained on painted surfaces, wood, paper, polyester, polyurethane and polyacetal (post-treated).
Resistance	Excellent resistance to previously mentioned materials. If used as a two-component ink the mechanical and chemical resistance is excellent and increases its adhesion.
Flash Point	Above 43 degrees C.
Preparation	Thin and mix well the PLT9 ink with PLTA Thinner in a portion of 10-20% max. In warm climates and in the presence of fine details or screened images the use of PLTD Retarder in a very small percentage is recommended. If the achievement of the major mechanical or chemical resistance or a higher adhesion is required, the ink can be used also as a two-component ink series. PLT9 can be mixed with hardener PLTH in a ratio of 10 parts ink to 1 part hardener.
Pot Life	***An excessive dilution causes a loss of coverage, smudges and incomplete ink detachment from the pad. A poor dilution may cause problems withdrawing ink from the cliché obtaining a repetitive print quality and avoiding the "dripping" of the same ink with lower print quality*** ***The life of the mixed ink is 8-10 hours after which the mechanical-chemical resistance and adhesion decrease.***
Drying & Hardening	Generally the following drying times are applicable: **Hand drying at 68° F:** Approx. 1-2 minutes **Curing at 68° F:** Approx. 1 minute **Hand drying at 175° F:** Approx. 30 seconds - 1 minutes **Curing at 175° F:** Approx. 30 seconds Items can be packed right after drying, however, curing may take up to 12 hours at room temperature. Chemical resistance tests should not be made for at least 72 hours. At that point PLT9 inks are alkai-proof and solvent-resistant. The final hardening of the ink is obtained after 24 hours.
Range of Colors	**PLT9 is available in 30 standard colors. PLT9 has a very good light resistance** with a fastness equivalent to 7-8 rating DIN.PLT9 inks are adjusted for printing with PLTA Thinner, PLTCAN Fast Thinner, and PLTD Retarder for printing fine detail.
Process Color Printing	PLT9 inks are available in transparent colors PLT9 #180 Yellow, PLT9 #181 Magenta, and PLT9 #182 Cyan.
Clean-up	PLTEBD Cleaner is recommended.
Storage	PLT9 has a shelf life of about 2 years. Storage containers should be sealed and placed in a cool dry place. PLH hardener should not be stored for long periods. The cans should be closed immediately after use, otherwise the hardener will be come thick and useless.
Additives	PLH Hardener PLTA Thinner PLTD Retarder

PLT12 Data Sheet
Acrylic-based Single-component Ink

Characteristics	PLT12 is a single-component ink that has a glossy appearance and good coverage.
Applications	Polystyrene (ABS), SAN, PS polystyrene, soft and stiff PVC, polycarbonate, polymethyl methacrylate do not utilize on polyolefins, some painted surfaces, leather, wood and imitation leather.
Preparation	Mix and strongly dilute with PLTA thinner in a portion of 10-20% maximum. In warm climates and in the presence of fine details or screened images, the use of PLTD retarder in a small percentage is recommended.
Warning	***The life of the two-component mixed ink is 8-10 hours depending on room temperature and ratio of solvent(s).***
Drying	Room temperature approximately 8-10 minutes.
Clean-up	PLTEBD Cleaner is recommended.
Storage	PLT12 has a shelf life of about 2 years. Storage containers should be sealed and placed in a cool dry place. PLH hardener should not be stored for long periods. The cans should be closed immediately after use, otherwise the hardener will be come thick and useless.
Colors	Colors Available in 24 standard colors as well as process colors. A complete color matching system is also available.
Additives	Additives PLH Hardener PLTA Thinner PLTD Retarder

PLT15 Data Sheet
Acrylic-based One- or Two-component Ink

Characteristics	PLT15 is a one- or two-component ink that has a high-gloss finish and is quick to dry with very good opacity and excellent coverage.
Applications	Particularly suited for printing on PE-PP, PMMA, PS, ABS, SAN, PVC plasticized and rigid, PMMA, polypropylene, and polyethylene (pr-treated).
Resistance	PLT15 has good resistance to alcohol, greases and petrol and hand perspiration.
Flash Point	Above 43 degrees C.
Preparation	Thin and mix well with PLTA thinner in a portion of 10-20% maximum. In warm climates and in the presence of fine details or screened images, the use of PLTD retarder in a small percentage is recommended. If used as a two-component ink, PLT15 can be mixed with PLH hardener in a ratio of 10 parts ink to 1 part hardener.
Pot Life	***An excessive dilution causes a loss of coverage, smudges and incomplete ink detachment from the pad. A poor dilution may cause problems withdrawing ink from the cliché obtaining a repetitive print quality and avoiding the "dripping" of the same ink with lower print quality. If the achievement of the major mechanical or chemical resistance or higher adhesion is required, the ink can be used as a two-component ink. In this case mix the ink with PLTH in a ratio of 10 parts ink to 1 part hardener.*** ***The life of the two-component mixed ink is 8-10 hours depending on room temperature and ratio of solvent(s).***
Drying & Hardening	Generally the following drying times are applicable: **Hand drying at 68° F:** Approx. 1-2 minutes **Curing at 68° F:** Approx. 30 seconds **Hand drying at 175° F:** Approx. 30 seconds **Curing at 175° F:** Approx. 15 seconds The final hardening of the ink is obtained after 5 days.
Range of Colors	PLT15 is available in 15 standard shades as well as 3 transparent, four-color process shades. PLT15 inks are adjusted for printing with PLTA Thinner, PLTCAN Fast Thinner, and PLTD Retarder for printing fine detail.
Process Color Printing	PLT15 inks are available in transparent colors PLT15 #180 Yellow, PLT15 #181 Magenta and PLT15 #182 Cyan.
Clean-up	PLTEBD Cleaner is recommended.
Storage	PLT15 has a shelf life of about 2 years. Storage containers should be sealed and placed in a cool dry place. PLH hardener should not be stored for long periods. The cans should be closed immediately after use, otherwise the hardener will become thick and useless.
Additives	PLH Hardener PLTA Thinner PLTD Retarder

PLT20 Data Sheet
Acrylic-based One- or Two-component Ink

Characteristics	PLT20 is a single-component ink. It has a semi-gloss appearance and has excellent covering power and quick drying.
Applications	Particularly suited for printing on Polypropylene.
Resistance	Good resistance to alcohol and perspiration on hands.
Flash Point	Higher than 43° C.
Preparation	Thin and mix well with PLTA thinner in a portion of 10-20% maximum. Use PLP2 Adhesion Promoter in a ratio of 10-15%. In warm climates and in the presence of fine details or screened images, the use of PLTD retarder in a small percentage is recommended. If used as a two-component ink, PLT20 can be mixed with PLH hardener in a ratio of 10 parts ink to 1 part hardener.
Pot Life	***Excessive dilution generates a loss of the covering power, smudges and an imperfect detachment of the ink from the pad. An insufficient dilution causes problems of drawing the ink from the cliché, printing repeatability and dripping of the ink with a consequent decline of the printing quality.*** ***The life of the two-component mixed ink is 8-10 hours depending on room temperature and ratio of solvent(s).***
Drying & Hardening	The drying time lasts between 1 and 2 minutes at an ambient temperature of about 20xC. If you would like it to dry in only a few seconds, you can use hot air circulation ovens (60-80 b xC) or high temperature spot devices (air or infrared rays) that can be installed on the piece feeding systems (e.g. rotary tables, conveyors, etc.). The ink is completely hardened after 24 hours.
Range of Colors	Consult the Ink Color chart of matte hues that includes a selection of 14 standard colors plus 3 three color shades. All of the color shades can be mixed with each other. Upon request; special sample colors, metallic gold and silver shades are ready for use.
Process Color Printing	PLT20 inks are available in transparent colors PLT20 #180 Yellow, PLT20 #181 Magenta and PLT20 #182 Cyan.
Clean-up	PLTEBD recommended.
Storage	PLT20 has a shelf life of about 2 years. Storage containers should be sealed and placed in a cool dry place. PLH hardener should not be stored for long periods. The cans should be closed immediately after use, otherwise the hardener will be come thick and useless.
Additives	PLH Hardener PLTA Thinner PLTD Retarder PLP2 Adhesion Promoter

PLT272 Data Sheet
Acrylic-based One-component Ink

Characteristics	PLT272 is a one-component ink with high gloss and excellent opacity. Gloss varies somewhat with substrate and color.
Applications	Particularly suited for printing on thermo plastics, polymethacrylates, i.e. Perspex, Plexiglas, restart glass, rigid and plasticized PVC, cellulose acetobutyrate, and various types of polystyrene and polycarbonate.
Resistance	PLT272 has good resistance to the products mentioned above.
Flash Point	Above 43 degrees C.
Preparation	Thin and mix well with PLTA thinner in a portion of 10-20% maximum. In warm climates and in the presence of fine details or screened images, the use of PLTD retarder in a small percentage is recommended.
Pot Life	***An excessive dilution causes a loss of coverage, smudges and incomplete ink detachment from the pad. A poor dilution may cause problems withdrawing ink from the cliché obtaining a repetitive print quality and avoiding the "dripping" of the same ink with lower print quality.***
Drying & Hardening	Generally the following drying times are applicable: **Hand drying at 68° F:** Approx. 10 - 15 minutes **Curing at 175° F:** Approx. 60 seconds The final hardening of the ink is obtained after 5 days.
Range of Colors	PLT272 is available in 24 standard shades as well as 3 transparent, four-color process shades. PLT272 inks are adjusted for printing with PLTA Thinner, PLTCAN Fast Thinner, and PLTD Retarder for printing fine detail.
Process Color Printing	PLT272 inks are available in transparent colors PLT272 #180 Yellow, PLT272 #181 Magenta and PLT272 #182 Cyan.
Clean-up	PLTEBD Cleaner is recommended.
Storage	PLT272 has a shelf life of about 2 years. Storage containers should be sealed and placed in a cool dry place.
Additives	PLTA Thinner PLTD Retarder

Notes:

* These inks: PLT4, PLT4G, PLT6, PLT9, PLT15, PLT20 do not contain any of the following substances:

Lead, Chromium VI, Mercury, Cadmium,

Polybromide diphenyl (PBB) and

Polybromide diphenyl ether (PBDE)

Other questions about our inks? Go to: ***www.padprintmachinery.com***
Our MSDS sheets are online.

PLTF Data Sheet
Acrylic-based One -component Ink

Characteristics	PLTF is a one-component ink that has a glossy finish with excellent opacity and flexibility.
Applications	Painted surfaces, leather, wood, polyethylene, soft and rigid PVC, polystyrene, ABS, paper, and textiles.
Resistance	Excellent resistance to previously mentioned materials. Good resistance of all colors to electric molding except for black, gold and silver.
Flash Point	Above 21 degrees C.
Preparation	Thin and mix well with PLTA thinner in a portion of 10-20% maximum. In warm climates and in the presence of fine details or screened images, the use of PLTD retarder in a small percentage is recommended.
Pot Life	***An excessive dilution causes a loss of coverage, smudges and incomplete ink detachment from the pad. A poor dilution may cause problems withdrawing ink from the cliché obtaining a repetitive print quality and avoiding the "dripping" of the same ink with lower print quality.***
Drying & Hardening	Generally the following drying times are applicable: **Hand drying at 68° F:** Approx. 10 - 15 minutes Drying can be accelerated by using ovens with circulating hot air or spot devices at high temperatures. The final hardening of the ink is obtained after 24 hours.
Range of Colors	PLTF is available in 22 standard colors. PLTF has a very good light resistance with a fastness equivalent to 7-8 rating DIN. PLTF inks are adjusted for printing with PLTA Thinner, PLTCAN Fast Thinner, and PLT4D Retarder for printing fine detail.
Process Color Printing	PLTF inks are available in transparent colors PLTF #180 Yellow, PLTF #181 Magenta and PLTF #182 Cyan
Clean-up	PLTEBD Cleaner is recommended.
Storage	PLTF has a shelf life of about 2 years. Storage containers should be sealed and placed in a cool dry place.
Additives	PLTA Thinner PLTD Retarder

Notes:

* All Thinners are pre-mixed and ***do not need*** to be diluted.
* The following colors have been discontinued: PLT15 color 17, PLT15 color 42, PLTF/41, PLTF/24, and PLTF/11

- PLT20 colors 31 & 34
- PLT20 colors 12, 17, and 42

} *(may be ordered in quantities of 30 kilos or more)*

View our color chart online: ***www.padprintmachinery.com***

Class VI - Medical Grade
Certified Inks for Topical Use

FOUR INK CHOICES NOW MEDICALLY CERTIFIED

Two different Pad Print Machinery of Vermont inks in three different colors have been certified for medical use by nationally recognized testing laboratories. All four passed the required Biological Reactivity Tests for USP Plastic Class VI.*

The ink's characteristics, applications and other physical aspects are located on previous data sheets pages for the specific ink listed below.

PLTF - #65 Black with PLTA Thinner

PLT4 - #65 Black with PLH Hardener and PLTA Thinner

PLT4 - #30 Blue with PLH Hardener

PLT4 - #10 Yellow with PLH Hardener

To request the one-page Certificate of Compliance, contact the Customer Service department.

***USP Class VI** certification is required for any products or devices that will have prolonged or permanent contact with broken skin, blood, tissue, bone or the circulatory system. Our customers are urged to have their products or devices tested by a laboratory and Pad Print Machinery of Vermont cannot be held responsible for the incorrect use of our products.

Class I
Certified Inks for Topical Use

SIX COLORS OF PLT4G CERTIFIED AS CLASS I

The popular Pad Print Machinery of Vermont ink PLT4G, in six different colors, has been certified for specific outside-the-body medical uses by a nationally recognized testing laboratory. All six colors passed the required Biological Reactivity Tests for USP Plastic Class I.*

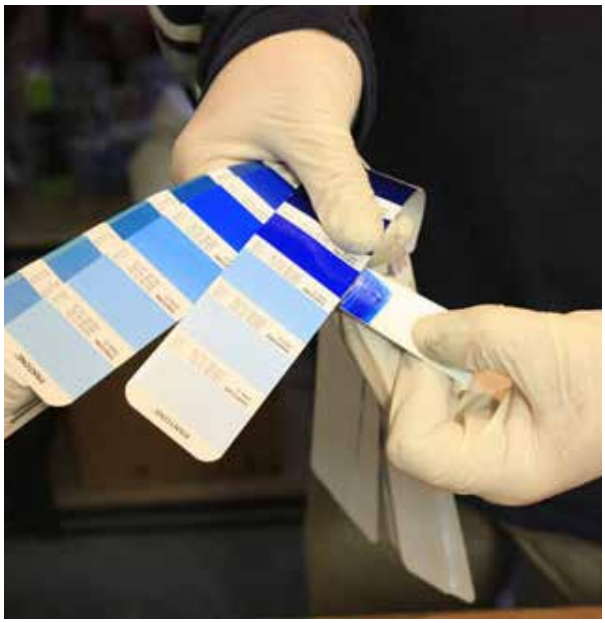
The ink's characteristics, applications and other physical aspects are located on previous data sheets pages for the specific ink listed below.

PLT4G - #11 Yellow, #21 Red, #30 Blue, #40 Green, #60 White and #65 Black with PLGH Hardener and PLT4G

To request the one-page Certificate of Compliance, contact the Customer Service department.

***USP Class I** certification is required for any products or devices that will have limited contact with mucous I surfaces (such as dental instruments that do not break the skin), or contact with intact skin. Our customers are urged to have their products or devices tested by a laboratory and Pad Print Machinery of Vermont cannot be held responsible for the incorrect use of our products.

Color Matching System



Colormatch System

#CMix One Liter of 12 color match system colors, thinner & hardener.

We have a Color Matching System available for mixing PMS (**Pantone Matching System©**) colors for the following ink series:

- PLT4
- PLT4G
- PLT6
- PLT9
- PLT15 and
- PLT20.

With this system, smaller quantities of ink can be mixed, ideal for shorter production runs.

The system includes:

- a computerized PMS formula program,
- twelve mixing inks (1 kilo each),
- 1 gallon of Thinner and
- ½ liter of Hardener (if applicable).

Ink Sample Kits *available with 8oz ink plus 1 Quart Thinner and 1/2 kilo of Hardener*

Ink Accessories

Don't forget the gloves

We recommend getting a box of Nitrile gloves for use with the digital printer. One box of 100, large, powder free, ***#0713100 Nitrile Gloves.***

Ink Sample Kits

PLT4 Sample	8 oz. each: Yellow, Red, Blue, Green, White, & Black, plus 1 Quart PLTA Thinner and 1/2 Kilo PLH Hardener.
PLT4G Sample	8 oz. each: Yellow, Red, Blue, Green, White, & Black, plus 1 Quart PLTB Thinner and 250 gm. PLHG Hardener.
PLT6 Sample	8 oz. each: Yellow, Red, Blue, Green, White, & Black, plus 1 Quart PLTCAN Thinner.
PLT9 Sample	8 oz. each: Yellow, Red, Blue, Green, White, & Black, plus 1 Quart PLTA Thinner
PLT15 Sample	8 oz. each: Yellow, Red, Blue, Green, White, & Black, plus 1 Quart of PLTA Thinner.
PLT20 Sample	8 oz. each: Yellow, Red, Blue, Green, White, & Black, plus 1 Quart of PLTA Thinner.
PLT272 Sample	8 oz. each: Yellow, Red, Blue, Green, White, & Black, plus 1 Quart of PLTA Thinner
PLTF Sample	8 oz. each: Yellow, Red, Blue, Green, White,& Black, plus 1 Quart of PLTA Thinner

Print Room Supplies

Storage Containers In various sizes, for storing single-component ink for future use.

#41738KY	2 oz. plastic jar with cap
#41740KY	4 oz. jar with cap
#41744KY	8 oz jar with cap
#1200-1100	1 Quart can with lid

Mixing Cups

#BAR4	200 gm plastic mixing cup with lid.

Squeeze Bottles Plastic bottles with capped squirt nozzle tip used for thinners and solvents.

Available in two sizes:

#SPZ103	8 oz. squeeze bottle
#SPZ105.	16 oz. squeeze bottle

Ink Accessories

Kerodex 10 Ink Barrier Hand Cream - #Hand Cream
10 oz. tube of ink-resistant hand cream. Rub in well before working with ink. The barrier cream helps ink release from the skin during cleanup.

Latex Gloves - #XL-23952
100-count box of lightly powdered extra large latex gloves.
(Other sizes available by special order.)

Task Wipes - #KC-WIPE
Low-lint, single-use wipes, 280/box. Keep a box at each work station to clean up small spills.

Shop Wipes
Durable Blue Wypall Towels. For cleaning machines, ink spatulas and larger spills.
#WKC-41041 Roll of 150.
#WKC-41043 Roll of 475.

Primer Wipe - #PW3
1 Liter of pretreatment for better ink adhesion. In some cases may be used instead of flaming or corona treating Polypropylene and Polyethylene.

Cotton Swabs - #WS-CTNSWAB
6" cotton swab with wooden stick, package of 500.

Viscospatula *(shown on right)* - A slotted measuring device used to check ink viscosity prior to printing.

Viscospatula - *the ink flows down from the spatula from the first hole to the fifth at a measurable rate - thus allowing adjustments to the ink's thickness.*

Ink Spatula - Stainless steel blade with wooden handle. Used to remove ink from cans as well as mixing ink.

Clean-Up

Special Cleaner

A solvent used to remove ink from poorly printed parts. Let evaporate before re-printing. Can also be used to remove dried ink from clichés, but follow with thinner to remove residue.

#PLTSPECIALQ	One quart of special cleaner
#PLTSPECIALG	One gallon of special cleaner
#70304	A 5 gallon drum of PLT special cleaner

Cleanup Solution

A non-hazardous clean-up solution. Recommended for use in our SUPERWASH/MINIWASH units to power clean ink cups. Can also be used to remove dried ink from clichés, but follow with thinner to remove residue.

#PLTEBDG	One gallon of cleanup solution
#PLTEBD5G	5 gallon of cleanup solution

Ink Additives

Matte Powder

A powder added to ink to flatten the finish and create a matte appearance. Added 5% by weight.

PLTA Thinner

= Medium Speed Thinner

Thinner for use with Ink Series: PLT4, PLT9, PLT15, PLT20, PLT272 and PLTF. Available in three sizes:

#PLTAL	One Quart PLTA Thinner
#PLTAG	One Gallon PLTA Thinner
#PLTA5G	5 Gallon PLTA Thinner

PLTB Thinner

= High Speed Thinner

A thinner for use with Ink Series PLT4G. Available in three sizes:

#PLTBL	One Quart PLTB Thinner
#PLTBG	One Gallon PLTB Thinner
#PLTB5G	5 Gallon PLTB Thinner

PLTCAN Thinner

= Medium Speed Thinner

A thinner for use with Ink Series PLT6. Available in three sizes:

#PLTCANL	One Quart PLTCAN Thinner
#PLTCANG	One Gallon PLTCAN Thinner
#PLTCAN5G	5 Gallon PLTCAN Thinner

PLTD Retarder

= Low Speed Thinner
(for warm & humid conditions)

A drying retarder for use with all Ink Series. Available in three sizes:

#PLTDL	One Quart PLTD Retarder
#PLTDG	One Gallon PLTD Retarder
#PLTD5G	5 Gallon PLTD Retarder

PLH Hardener

A hardener for use with Ink Series PLT4, PLT6, PLT9, PLT15 and PLT20.
(The 2nd component in bi-component ink.)

#PLH1/2L	One-half Kilo PLH Hardener

PLHG Hardener

A hardener for use with Ink Series PLT4G.
(The 2nd component in bi-component ink.)

#PLHG1/4	250 Grams PLH Hardener

PLP2 Adhesion Promoter

Additive used with Ink Series PLT to pretreat printing surface for better ink adhesion.

#PP2	One Kilo of additive

Sealed Ink Cups and Accessories

Ink Cups

For use with our closed ink cup COMEC pad printing machines. Constructed with strong but light Anodized Aluminum body fitted with standard ceramic ring.

INKCUP-P Ink Cup Holder Pressure Spring Screw

01-1160 Ink Cup Pressure Screw (1/4 turn) Bayonet style

60mm Ink Cup	**#60-CUP-SS**	60mm Ink Cup with single sided ceramic ring
	#60-CUP-DS	60mm Ink Cup with double sided ceramic ring
90mm Ink Cup	**#90-CUP-SS**	90mm Ink Cup with single sided ceramic ring
	#90-CUP-DS	90mm Ink Cup with double sided ceramic ring
110mm Ink Cup	**#110-CUP-SS**	110mm Ink Cup with single sided ceramic ring
	#110-CUP-DS	110mm Ink Cup with double sided ceramic ring
130mm Ink Cup	**#130-CUP-SS**	130mm Ink Cup with single sided ceramic ring
	#130-CUP-DS	130mm Ink Cup with double sided ceramic ring
160mm Ink Cup	**#160-CUP-SS**	160mm Ink Cup with single sided ceramic ring
	#160-CUP-DS	160mm Ink Cup with double sided ceramic ring
200mm Ink Cup	**#200-CUP-SS**	200mm Ink Cup with single sided ceramic ring
	#200-CUP-DS	200mm Ink Cup with double sided ceramic ring
250mm Ink Cup	**#250-CUP-SS**	250mm Ink Cup with single sided ceramic ring
	#250-CUP-DS	250mm Ink Cup with double sided ceramic ring

Oval Cups

The oval shaped sealed ink cup is ideal for longer image areas allowing greater flexibility without the need for a cupslide. These cups can be retrofitted to our existing pad printers.

Two sealed oval cups available:

Oval ink cup size 140mm x 70mm for KP05 and larger printers

Cliché size 100mm x 150mm

Oval ink cup size 220mm x 110mm for KP06 and larger printers

Cliché size up to 250mm x 250mm

**A new cliché support will need to be fabricated.*

Ink Cups, Rings and "O" Rings

Protective Ceramic Ring Ink Cup Lid

#T-1086	Lid for 130mm Ceramic Ring
#T-1128	Lid for 200mm Ceramic Ring
#T-240	Lid for 60mm Ceramic Ring
#T1050	Lid for 90mm Ceramic Ring

Replacement Ink cup – Body Only

(with magnets, filler screw and "O" ring)

#60CUPBODY-ASSY	One 60mm Ink Cup
#90CUPBODY-ASSY	One 90mm Ink Cup
#110CUPBODY-ASSY	One 110mm Ink Cup
#130CUPBODY-ASSY	One 130mm Ink Cup
#160CUPBODY-ASSY	One 160mm Ink Cup
#200CUPBODY-ASSY	One 200mm Ink Cup
#250CUPBODY-ASSY	One 250mm Ink Cup

Single sided ceramic rings

Replacement Ceramic Ink Cup Rings

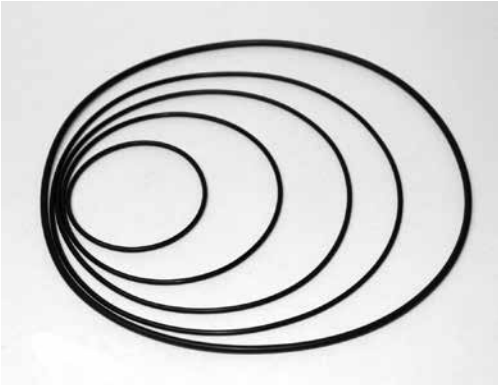
(includes "O" ring)

#60RING-SS-OR	60mm single sided ceramic ring
#60RING-DS-OR	60mm double sided ceramic ring
#90RING-SS-OR	90mm single sided ceramic ring
#90RING-DS-OR	90mm double sided ceramic ring
#110RING-SS-OR	110mm single sided ceramic ring
#110RING-DS-OR	110mm double sided ceramic ring
#130RING-SS-OR	130mm single sided ceramic ring
#130RING-DS-OR	130mm double sided ceramic ring
#160RING-SS-OR	160mm single sided ceramic ring
#160RING-DS-OR	160mm double sided ceramic ring
#200RING-SS-OR	200mm single sided ceramic ring
#200RING-DS-OR	200mm double sided ceramic ring
#250RING-SS-OR	250mm single sided ceramic ring
#250RING-DS-OR	250mm double sided ceramic ring

Double sided ceramic rings

Replacement Black "O" Ring

#60-ORING	60mm replacement "O" ring
#90-ORING	90mm replacement "O" ring
#110-ORING	110mm replacement "O" ring
#130-ORING	130mm replacement "O" ring
#160-ORING	160mm replacement "O" ring
#200-ORING	200mm replacement "O" ring
#250-ORING	250mm replacement "O" ring



Pad and Pad Accessories

Introduction to Pads

The pad is one of the most important elements in the pad printing process. The correct choice is essential in obtaining good final print results.

The pad is made with a special silicone rubber with the following characteristics:

- Excellent adhesion and detachment of the ink allowing a perfect transfer of the image to be printed
- Strength and resistance to solvents and inks for pad longevity
- Hardness and form stability.

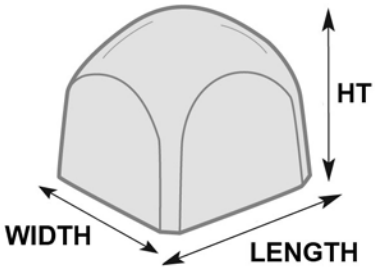
*For additional information on pad selection, visit our website and read the article **"Understanding the Pad in Pad Printing"** under the Support/Article tab. You may also contact our pad department if you have questions.*

Choosing a Pad

Your pad choice will depend on many elements, including:

- Dimension of the surface to be printed (print area);
- Shape of the printing surface (flat or contoured);
- Type of printing surface (smooth, rough, etc.)

These elements determine the pad's size, shape, and hardness -- expressed in durometers. Our pads are available in durometer ranges between 10 and 80.



Pad is measured without the base.

***Important:** It is necessary to use pads with length and width dimensions at least 10% to 20% greater than the print area.*

Ordering a Pad

Our staff will help you choose the proper pad for your printing application. Some of the questions we will ask *(in addition to print area, shape and surface texture)* are:

- Thickness of the base (1/2", 3/4", etc.)
- Type of base needed (wooden is standard, or specify flat aluminum or extruded aluminum dovetail)
- Machining or drilling needed on base (size and location of tap holes)
- Overall maximum pad height, including the base
- Whether the pad needs to be hollow or with a helicoil insert
- How hard or soft the item is being printed (to determine pad durometer)
- The size "T" nut needed to attach pad to machine (if needed).

Don't know what pad you need?

*Call our **Customer Service** department with your machine model and ask for a **"Pad Startup Kit"** with various shapes and size pads.*

Selecting the Silicone

The different types of silicone determine the hardness of the pad (*expressed in durometer*). The higher the number, the harder the pad. The following chart shows the durometer range for the various types of silicone pads available.

Durometer	Color
10 – 60	Blue
20 – 60	Yellow
20 – 65	White
30 – 75	Red

Machine Model & Pad Height

Important Note: *When ordering a new pad for the first time, it is crucial that you measure the space between your pad mounting and the cliché surface, taking into account the size base the pad will be mounted on.*

Our different pad printing machines are able to accommodate different maximum height pads See the following chart for examples of maximum pad height which includes the base. Some dimensions may vary depending on the mounting bracket or fixture.

Basics Pad Heights by machine *(includes base)*

	1 Color	2 Color	3 Color	"RR" Pad Shuttle
KP05	80mm	80mm	N/A	N/A
KP06	100mm	100mm	100mm	70mm
KP08	130mm	130mm	130mm	100mm
XP13 / XE13	130mm	130mm	130mm	N/A
XP16 / XE16	160mm	160mm	160mm	N/A

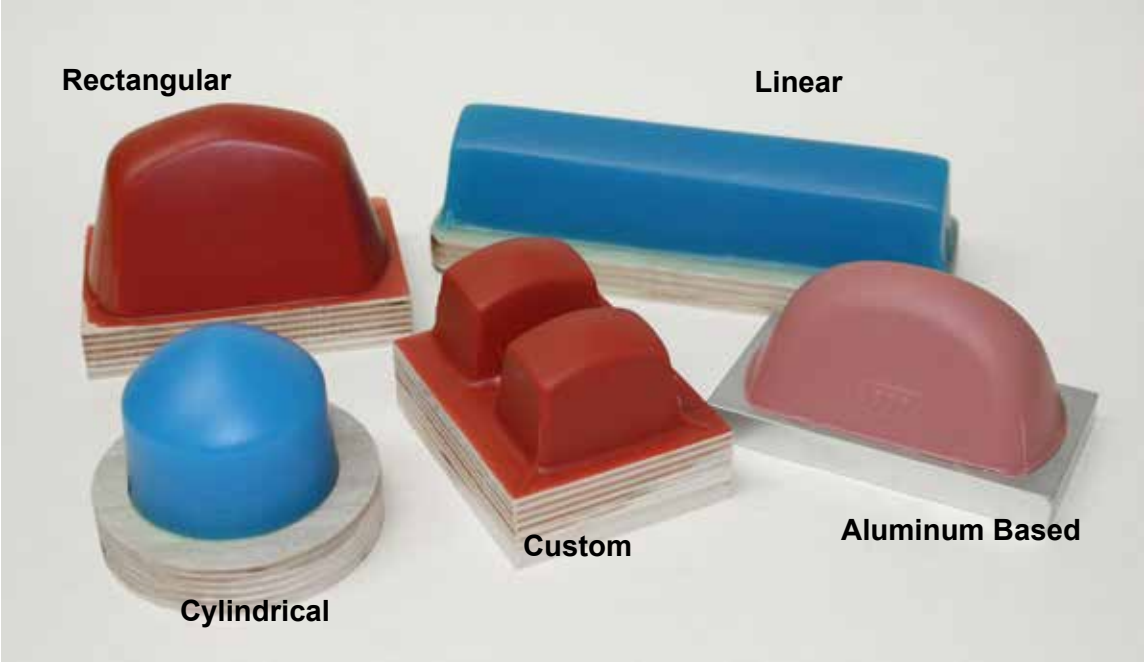
Ordering a Stock Pad

Our stock pads come in a multitude of different shapes, sizes, widths, lengths and heights. Pictures of many of our pads can be found on our website at ***www.padprintmachinery.com*** under the **Supplies & Consumables** tab.

- **Rectangular pads**, for instance range in size from 8mm x 28mm to 240mm x 120mm with flat, peaked, rounded or conical tops.
- **Cylindrical pads** range from as small as pencil erasers to as large as a helmet.
- **Linear pads** lengths are limited only by the ability of the machine to uniformly compress the pad.

If you originally ordered your pad from us, we'll have noted the pad re-order number on the base. If you want to try one of our pads and see one on our website that matches what you've got, give us a call and we'll talk.

Note: *Although we back stock our most-frequently ordered pads, we generally pour your pad within hours of receiving your order.* ***Blue pads cure in 1 hour, red pads take 24 hours to fully harden, and white pads take a full 48 hours of curing time before we can pack and ship them.***



Custom Pads

Ordering Custom Pads

If you've got a part to print that needs a unique, one-of-a-kind shaped pad, we can work with you to craft the perfect pad.

Our pad department can take your part and create a pad that will print in all your nooks and crannies perfectly, every time, for hundreds of thousands of imprints.

Already have a unique pad that works? We'll build you a mold for your special pad so you can get another one just like the other one, again and again.

Frequently asked questions

How long should my pad last?

Depending on how "rugged" a surface you're printing on, a pad should last between 50,000 and 100,000 impressions. Improper use, careless machine operation or stray grit however, can decrease the pad's life.

What should I watch for when I'm printing?

- Make sure your substrate is free of sharp particles and debris.
- Avoid printing on sharp edges, which can puncture the pad.
- Use as little pad pressure *(downstroke)* as you can to pick up and deposit your image. *(**Tip:** Too light an image could be an improperly etched cliché)*

What causes the most damage to pads?

Overly aggressive solvents, mechanical damage, poor storage practices, dirt/dust/debris and careless use are the most common causes of damage to pads.

Additionally, some inks have aggressive solvents as part of their mix that will be absorbed by the pad and cause the image to "spread" on the pad. This isn't permanent, as the solvent will evaporate if warmed or left to stand.

Could your pads benefit from automation?

*Check out our section on **Automation Add-Ons.** We have Automatic Pad Cleaners available for all our **KP/KE and XE** machines, from one to six colors.* ***(See page 18)***

How should I clean my pad?

The best way to remove ink and debris from your pad surface is with regular packing tape. You may also use a mild solvent, such as alcohol. Always clean your pad before starting a printing job and never use a sharp object on your pad.

What's the best way to store my pad?

If a pad arrives in a protective shell or with a protective cover, remove it and do not reuse. It could trap grit and debris that can damage the pad. Never store a pad on top of or compressed against another pad. Handle and store your pads carefully.

What's the best way to extend my pad's life?

We sell 8 oz bottles of Pad Rejuvenator *(Ask for **PAD OIL-8oz** when you call our customer service department.)*

The other way we recommend extending a pad's life is to have two pads that you alternate one shift on, one shift off, to "rest" the pad and let it restore to its uncompressed state.

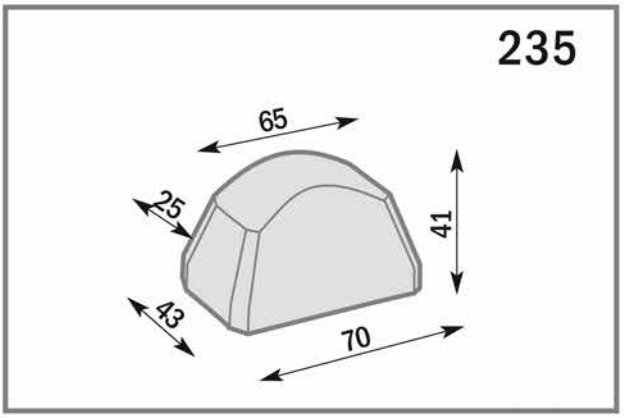
How do I prevent pad wear?

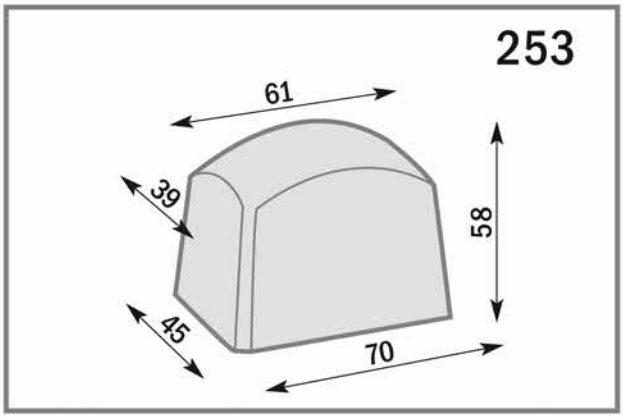
Correct design and tooling of fixtures will help eliminate pad wear – a major cause of image distortion.

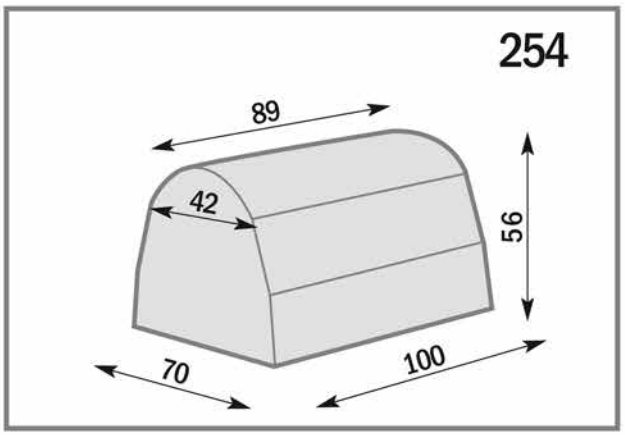
*An extensive section on Troubleshooting Tips for pad printers is located on our website: **www.padprintmachinery.com.***

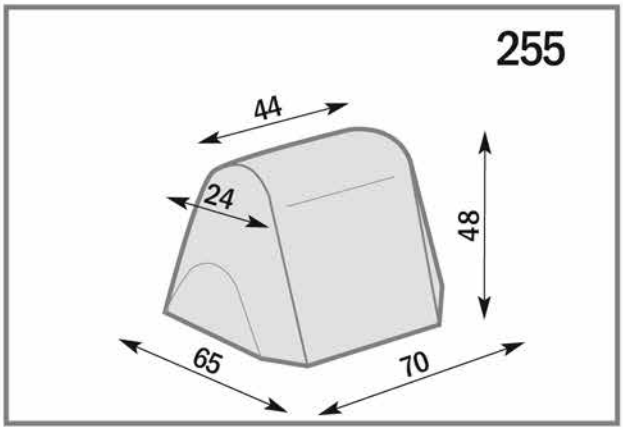
Pads – Rectangular

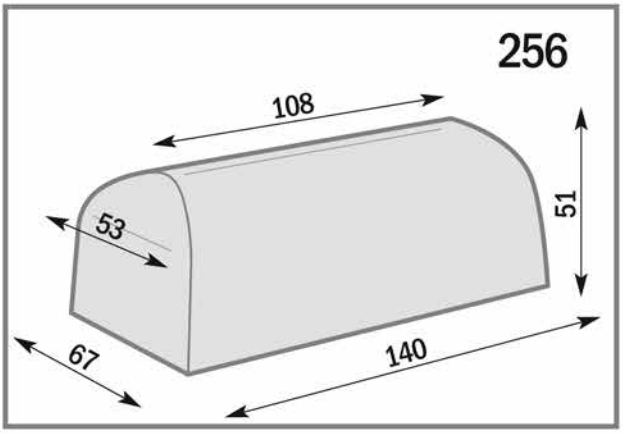
Measurements shown in millimeters
Inches = millimeters/25.4

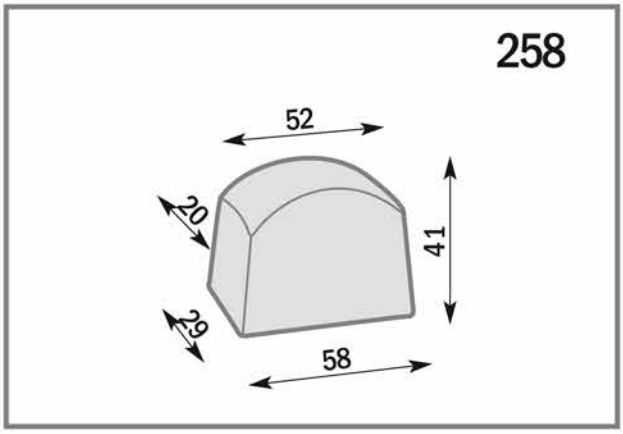


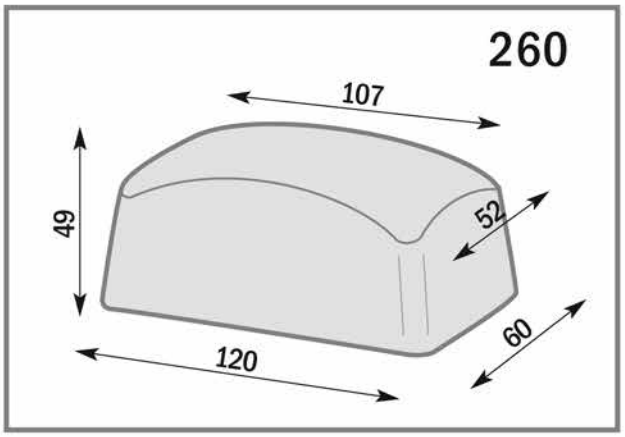


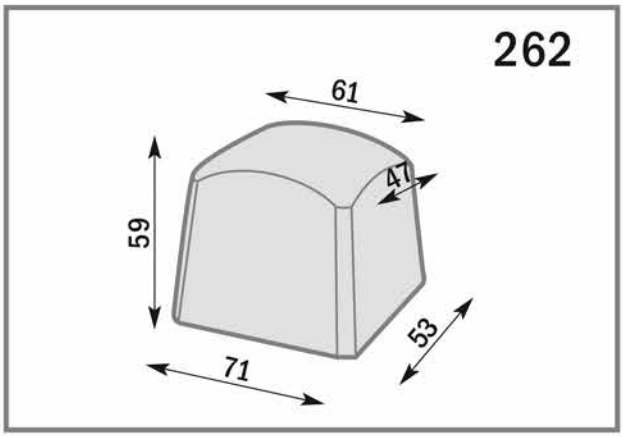








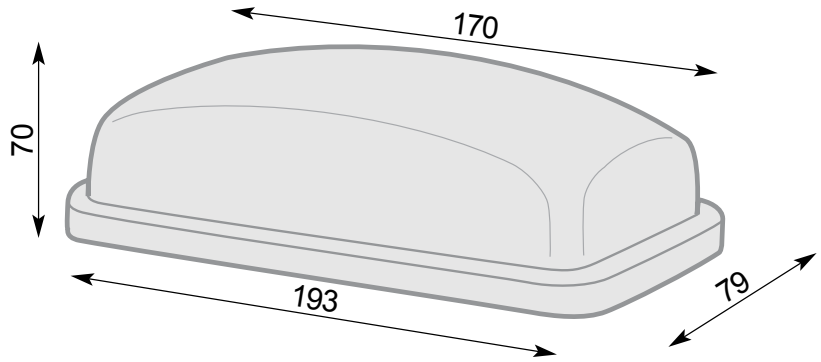




Pads – Rectangular

Measurements shown in millimeters
Inches = millimeters/25.4

265



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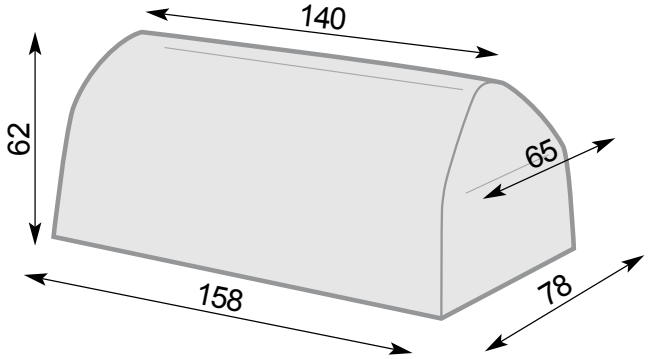

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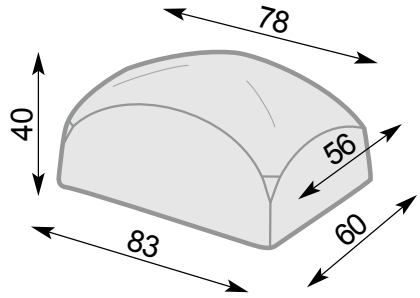

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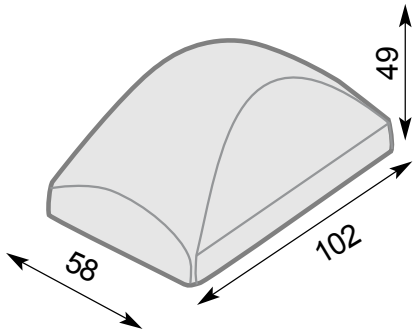

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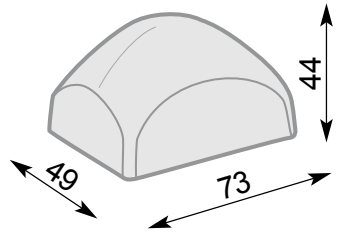

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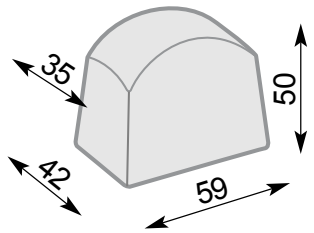

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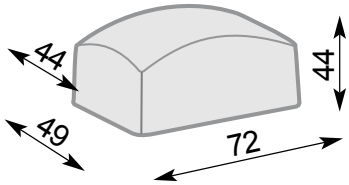
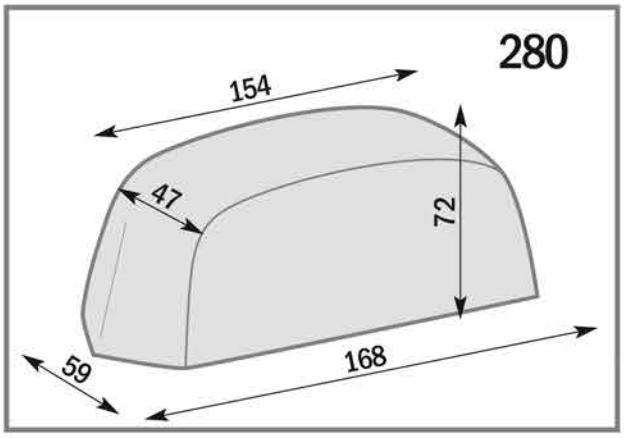


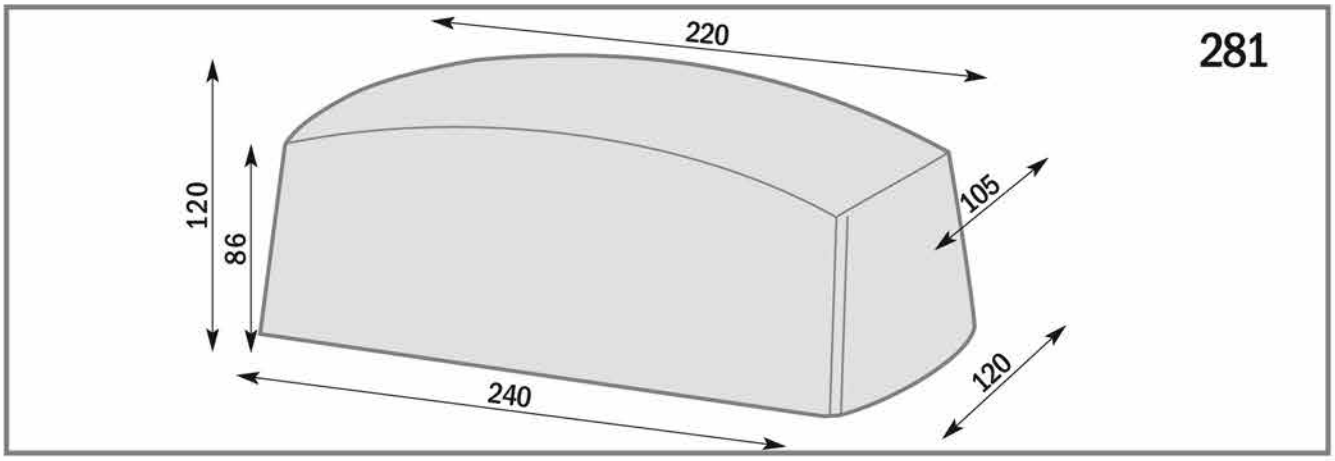
Pads – Rectangular

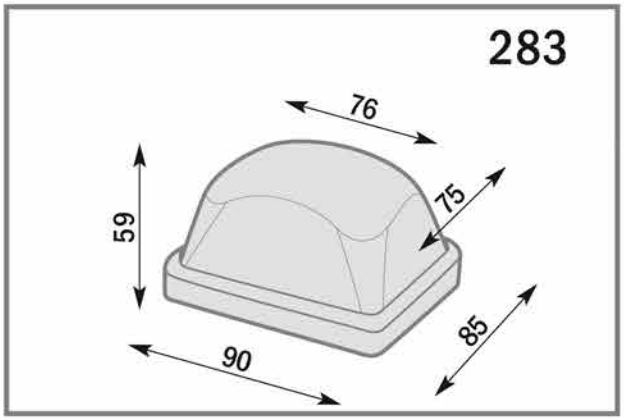
Measurements shown in millimeters
Inches = millimeters/25.4

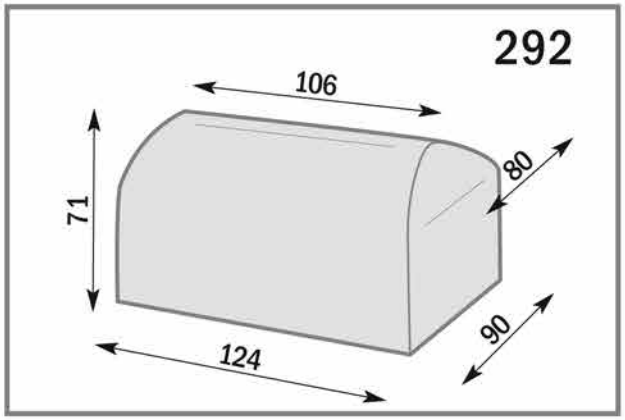


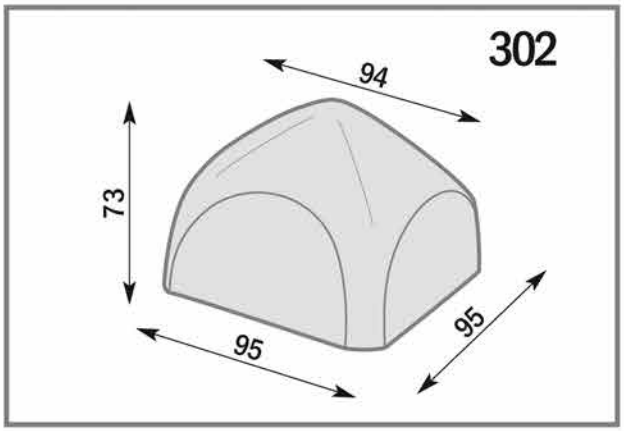
Don't see the pad you're looking for?
Don't worry – this is just a
sample of the molds we have.

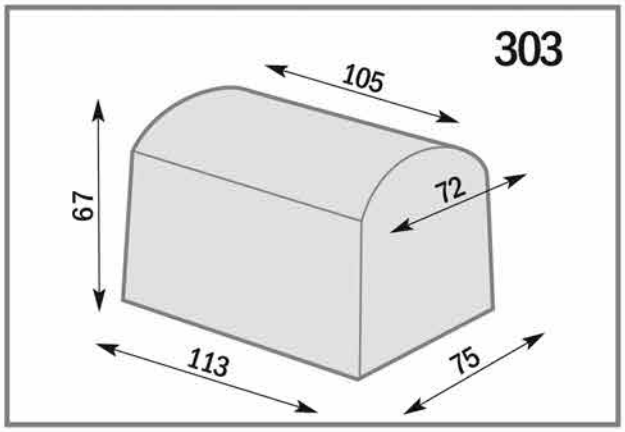
You can also check out our pad
selection on our website:
www.padprintmachinery.com *or*
call our customer service department at
1-800-272-7764





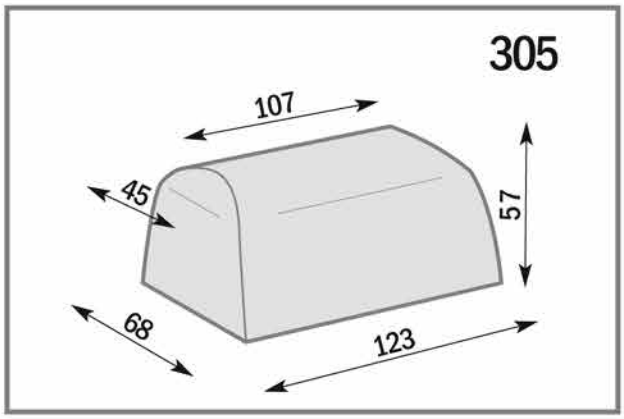


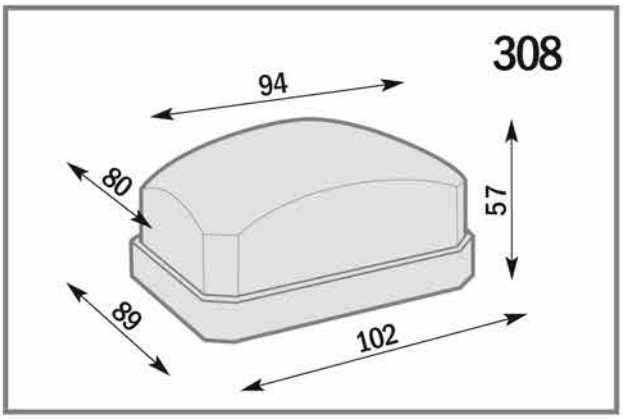


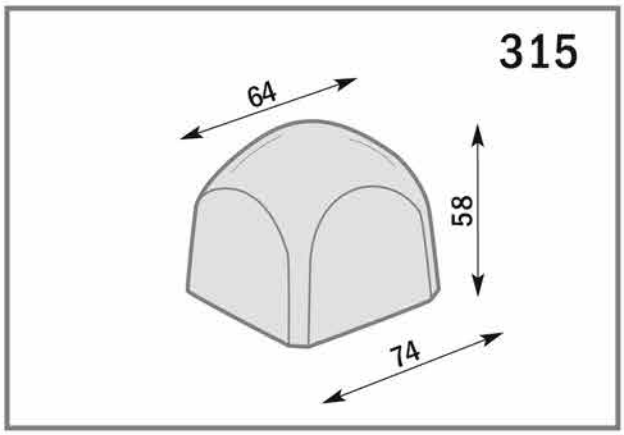


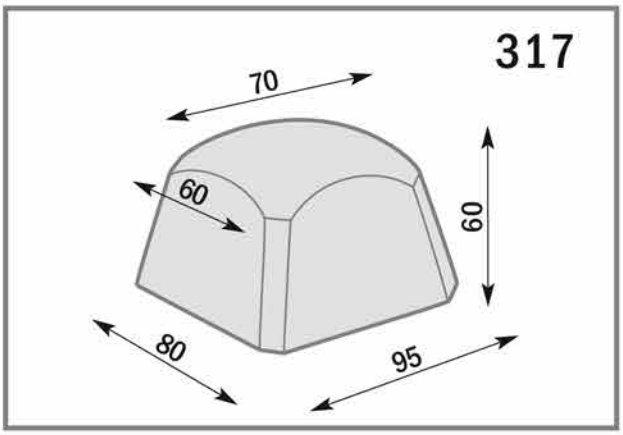
Pads – Rectangular

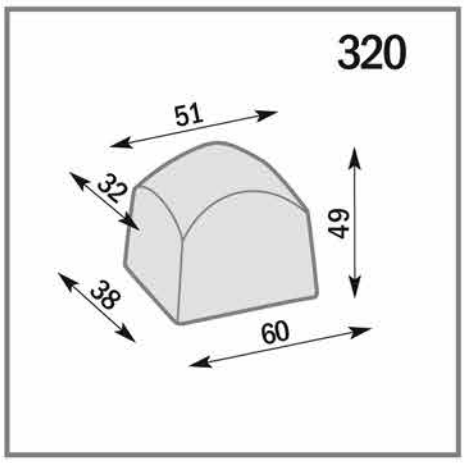
Measurements shown in millimeters
Inches = millimeters/25.4

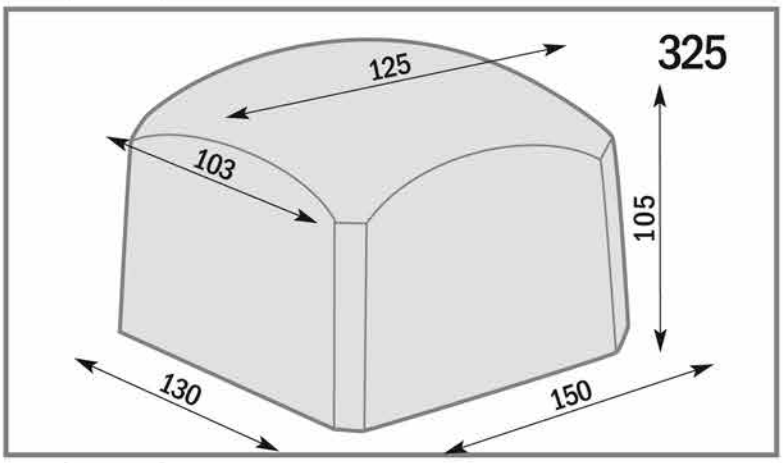


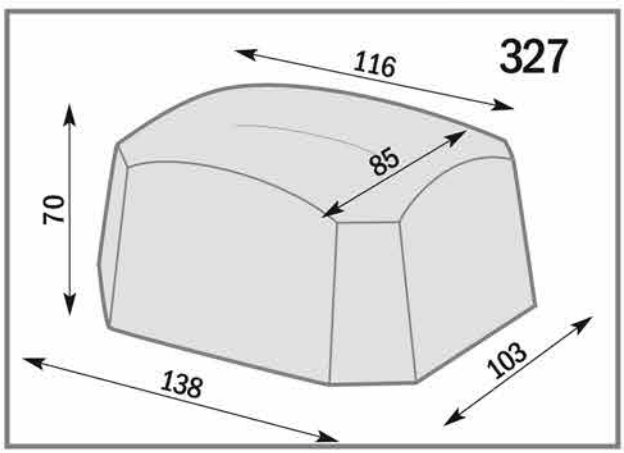


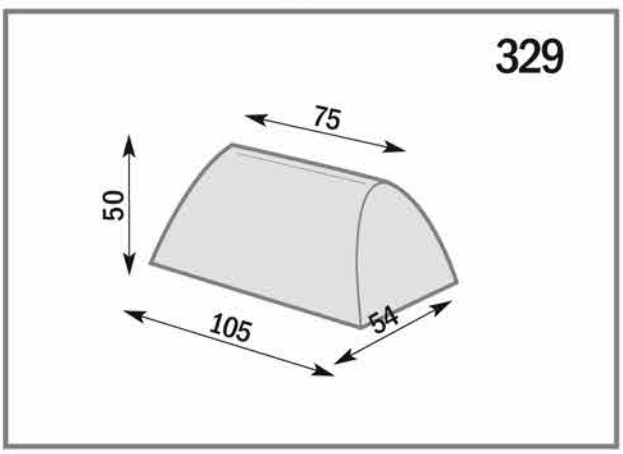






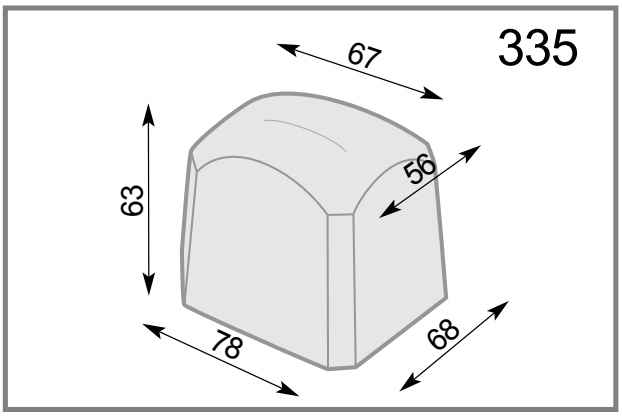


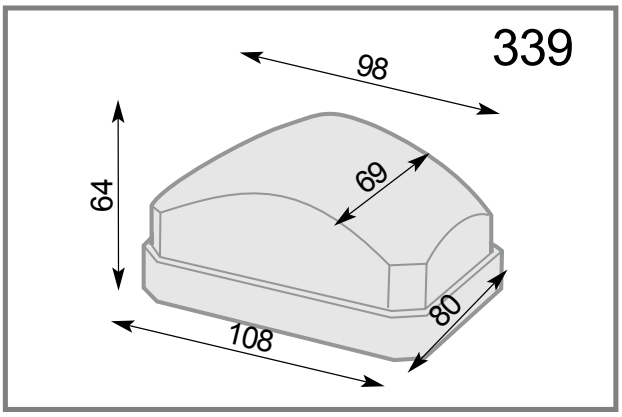


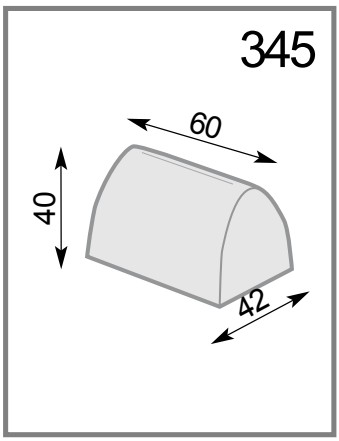


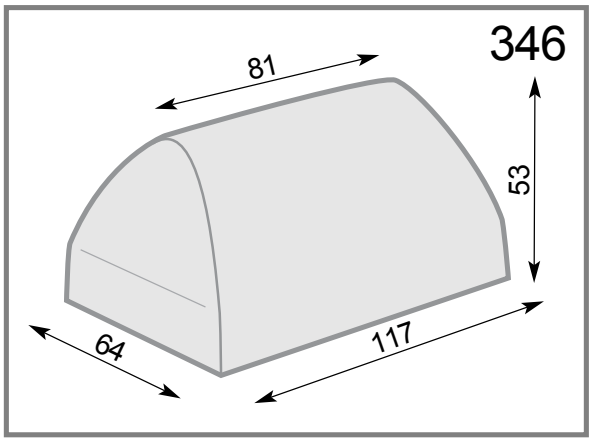
Pads – Rectangular

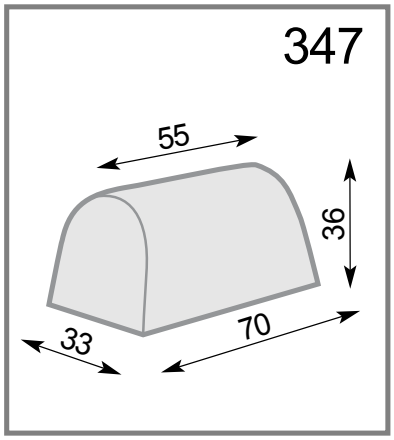
Measurements shown in millimeters
Inches = millimeters/25.4

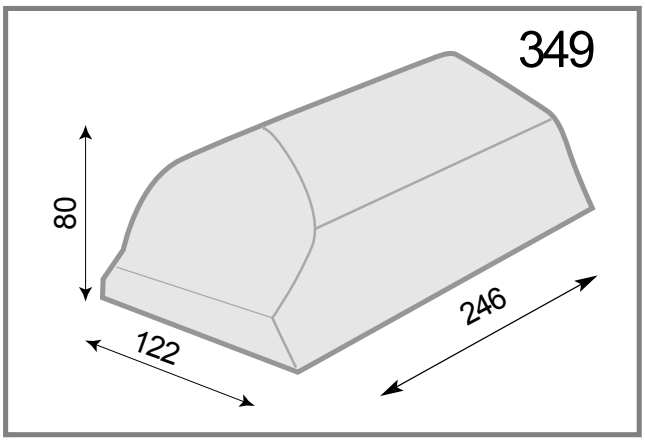


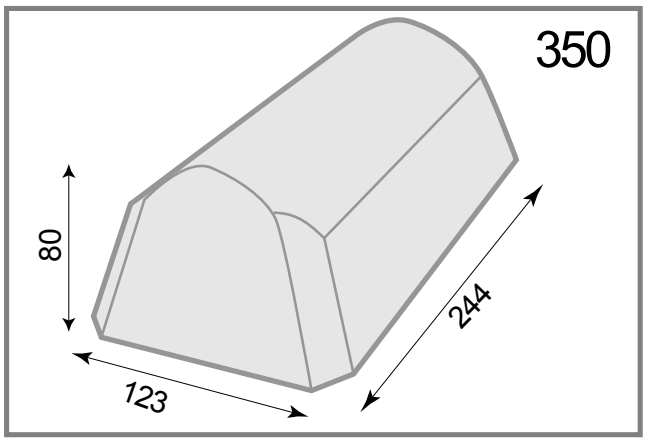


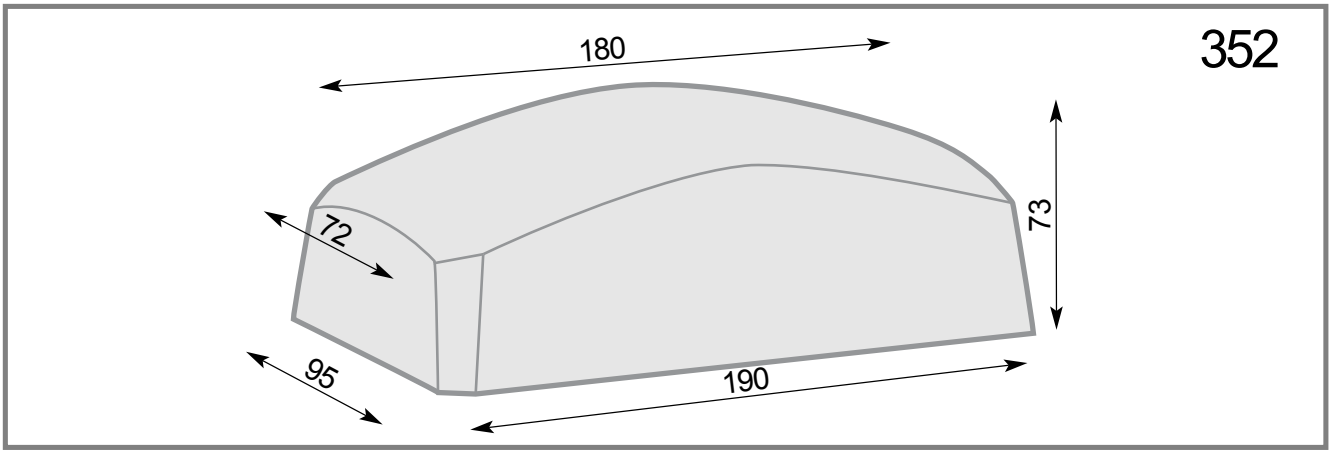






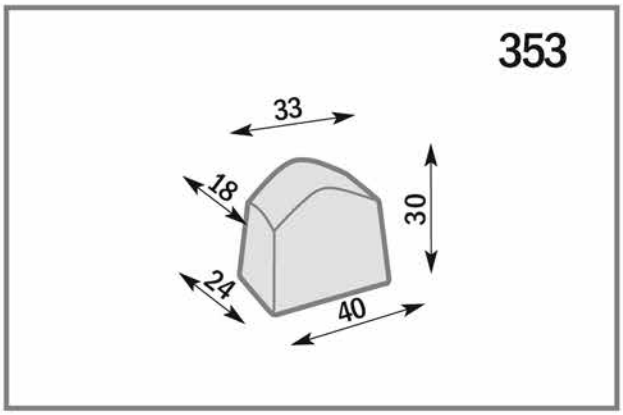


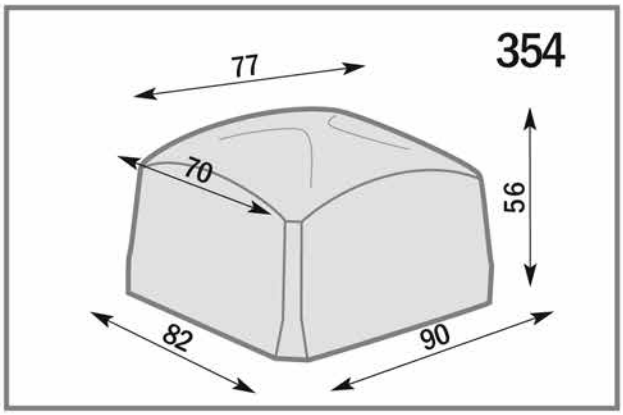


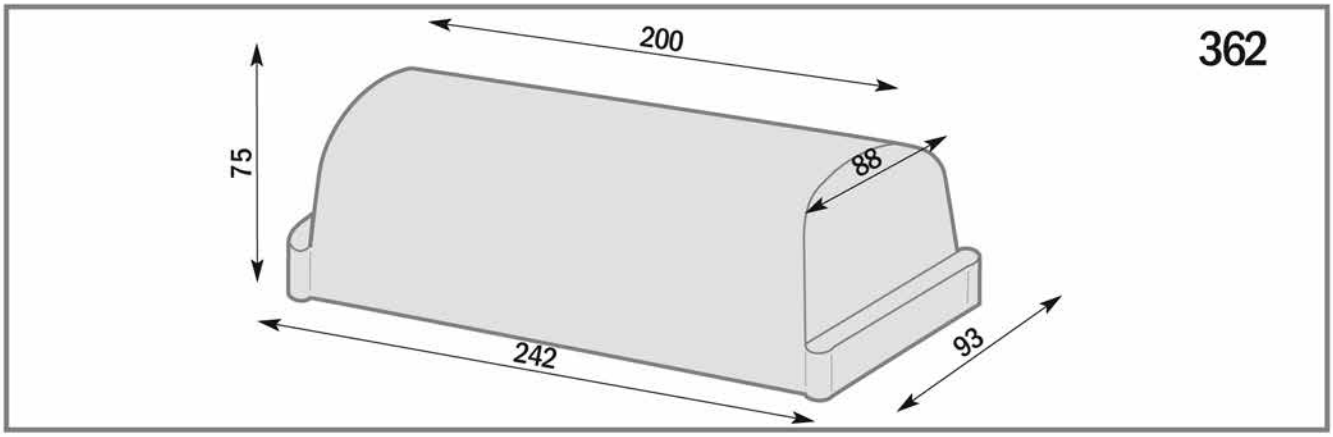


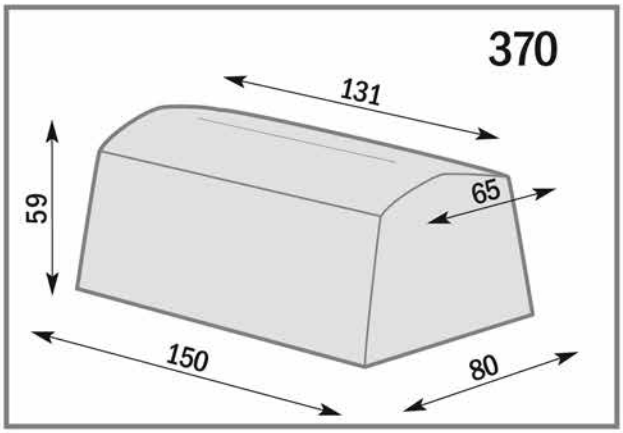
Pads – Rectangular

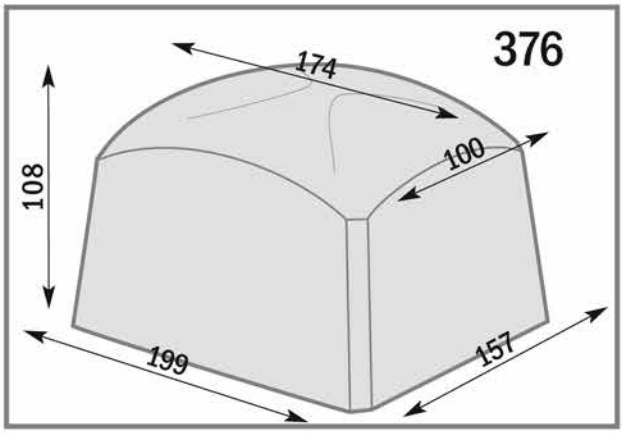
Measurements shown in millimeters
Inches = millimeters/25.4

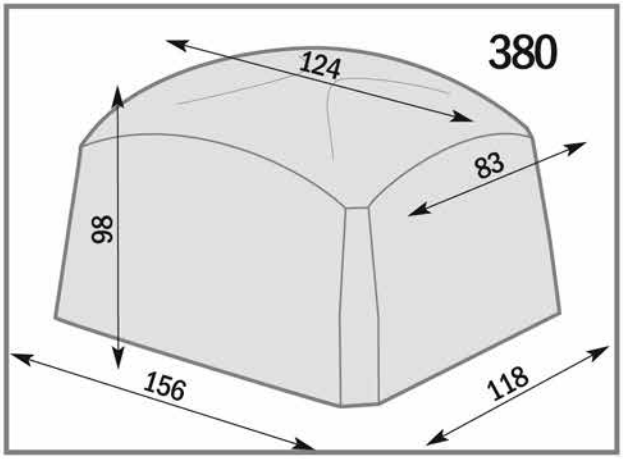


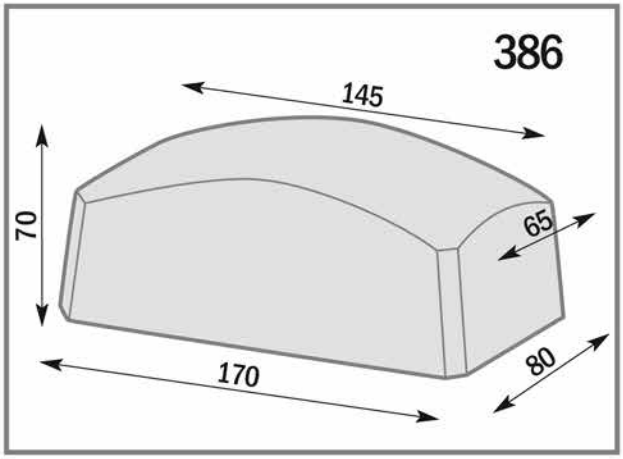






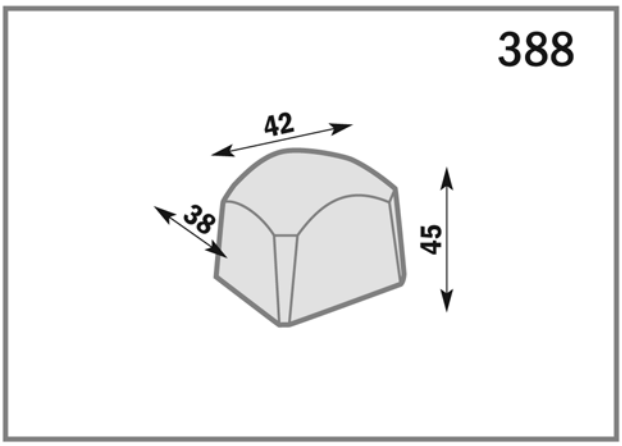


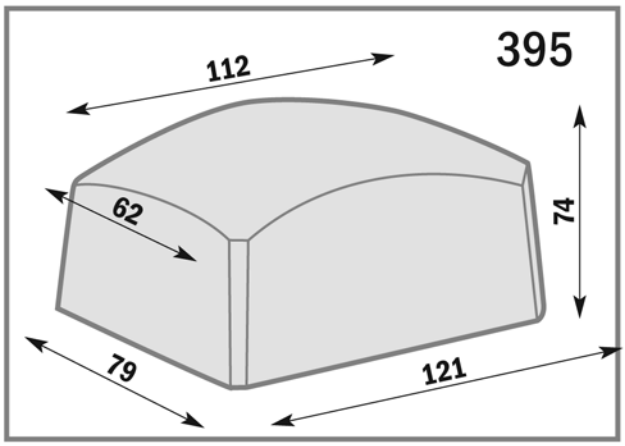


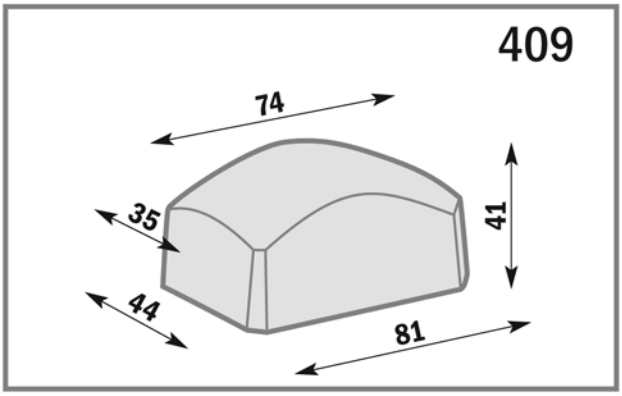


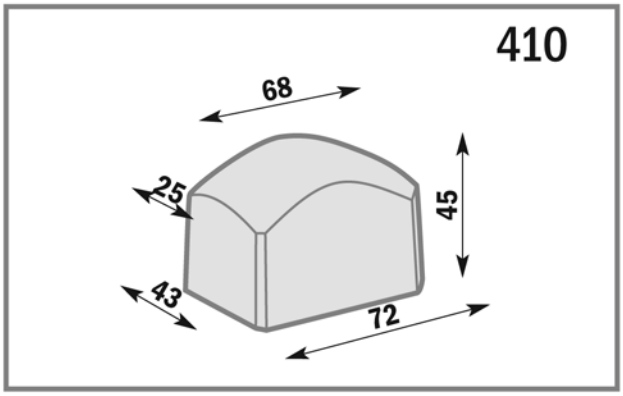
Pads – Rectangular

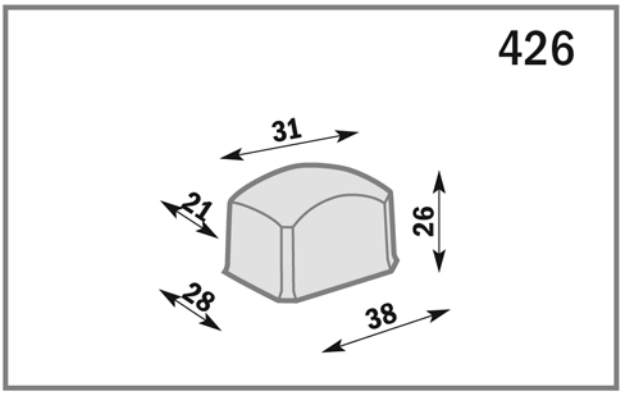
Measurements shown in millimeters
Inches = millimeters/25.4

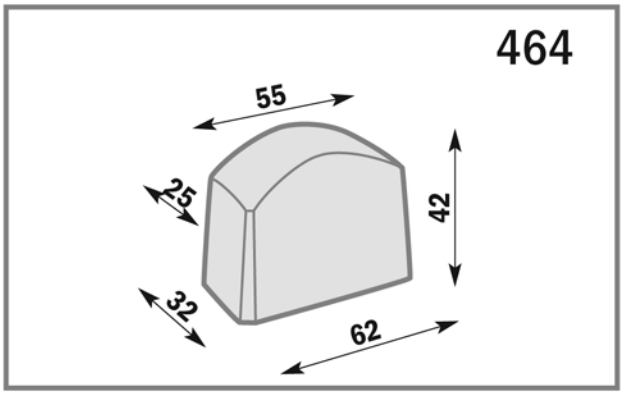


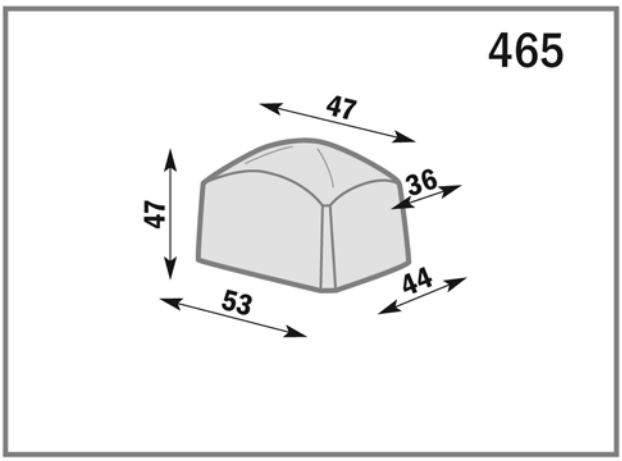


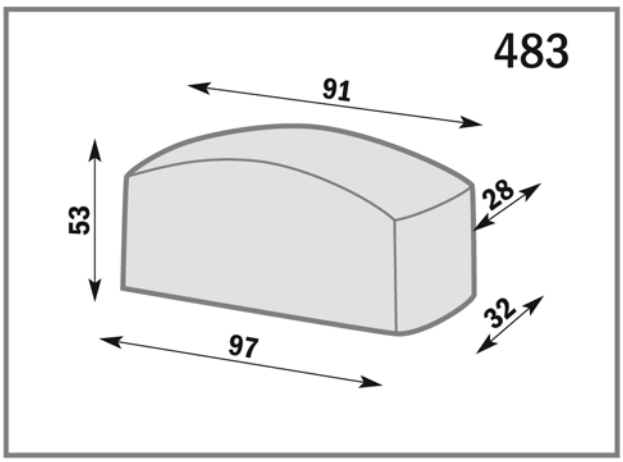






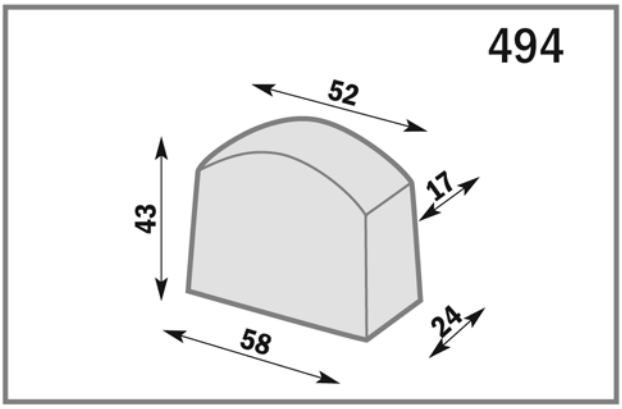


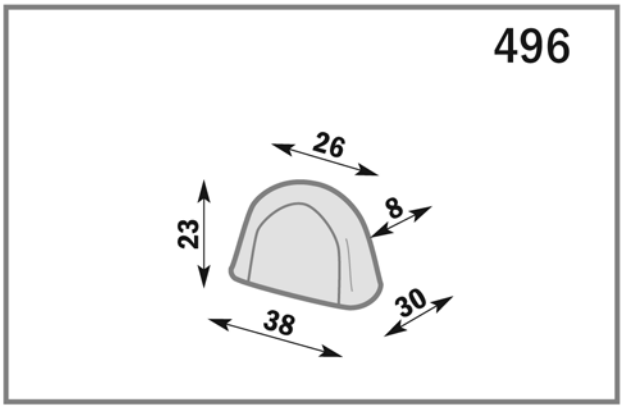


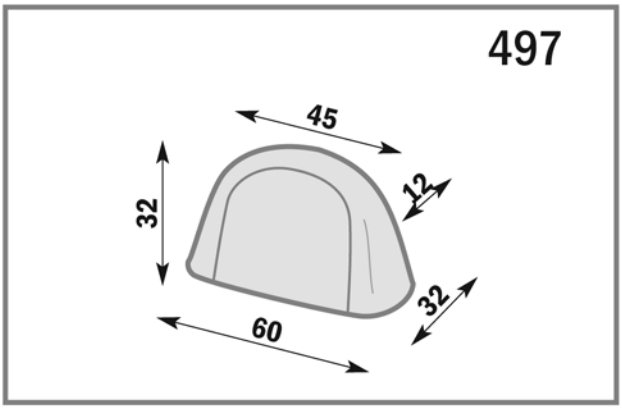


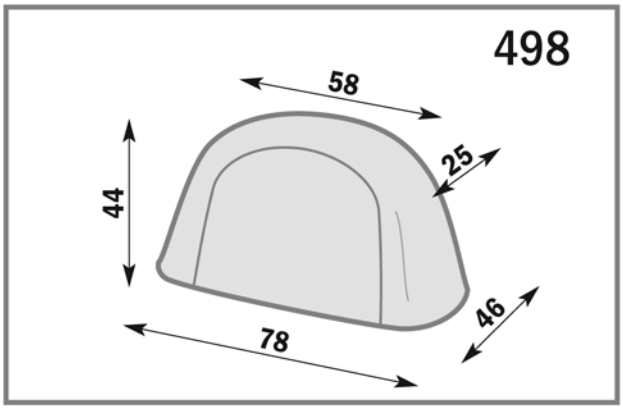
Pads – Rectangular

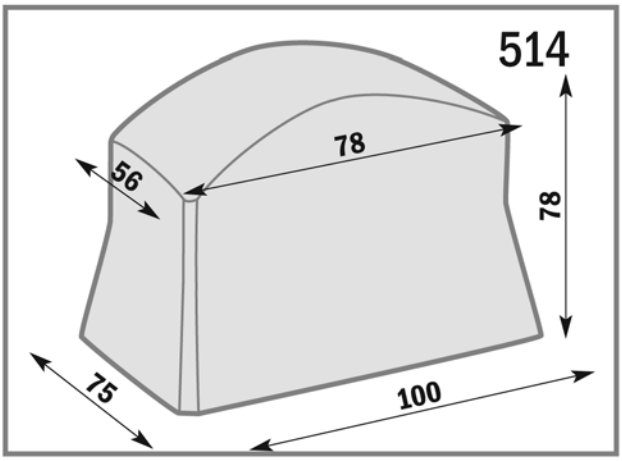
Measurements shown in millimeters
Inches = millimeters/25.4

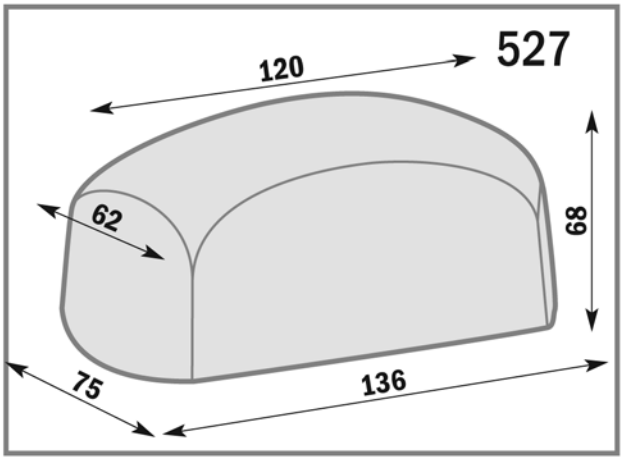


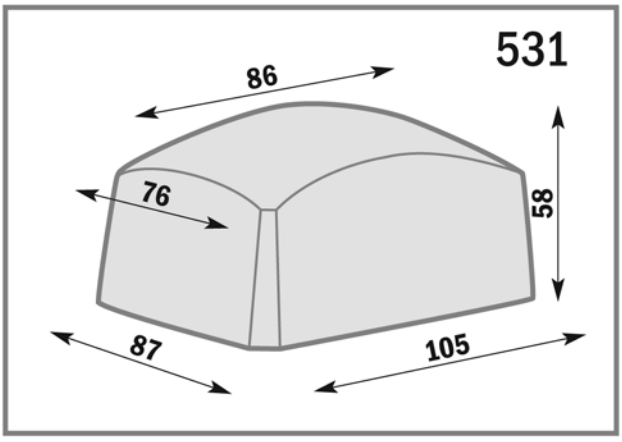


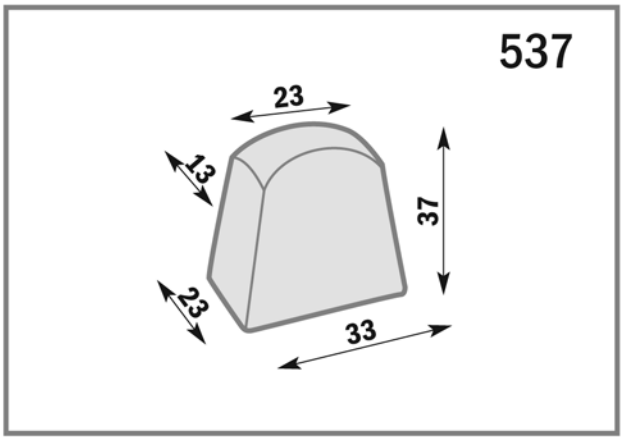






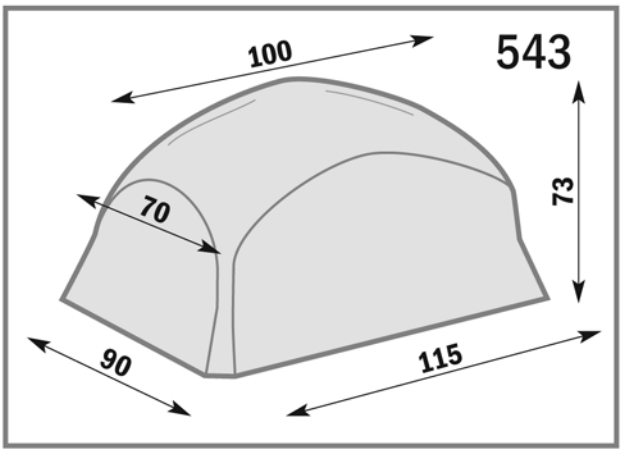






Pads – Rectangular

Measurements shown in millimeters
Inches = millimeters/25.4



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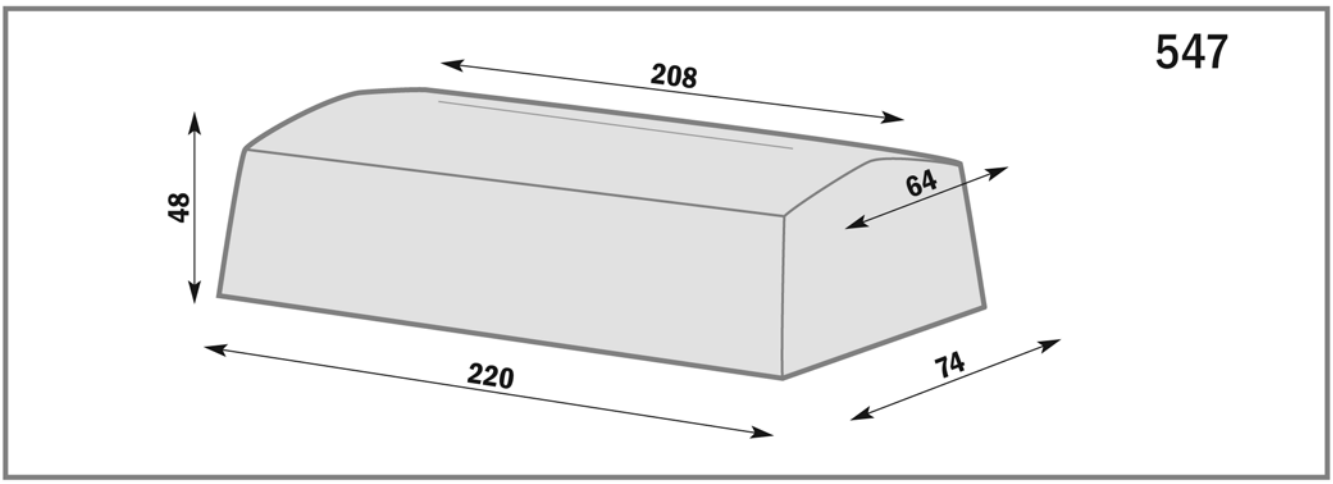
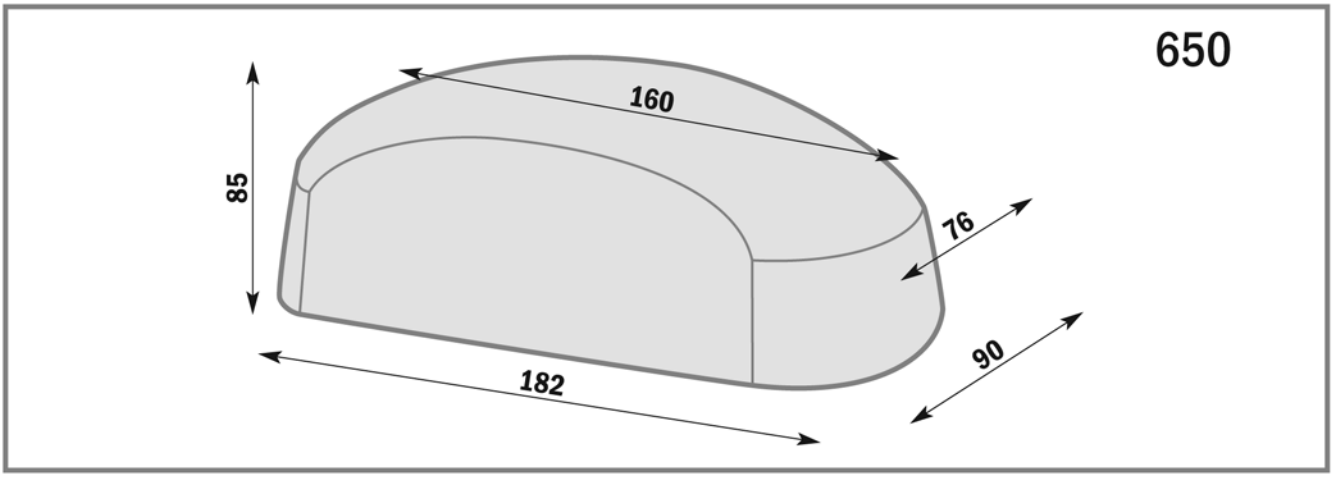
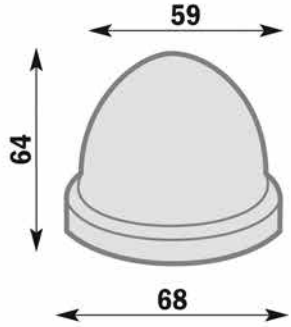




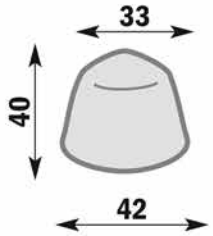
Pads – Cylindrical

Measurements shown in millimeters
Inches = millimeters/25.4

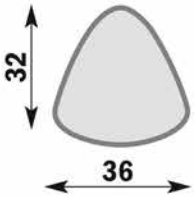
213



214



218



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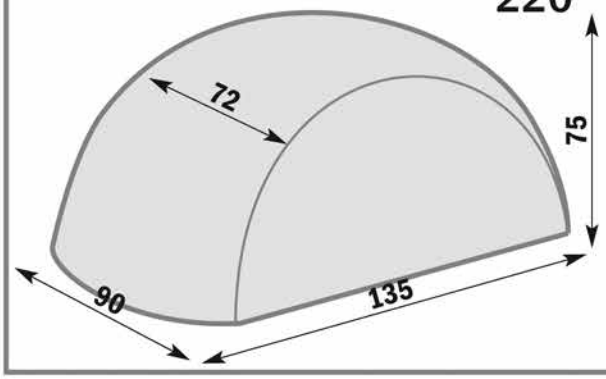
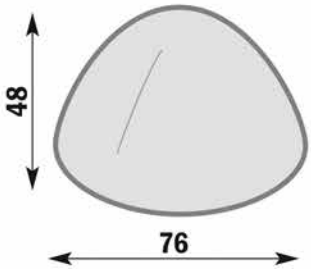
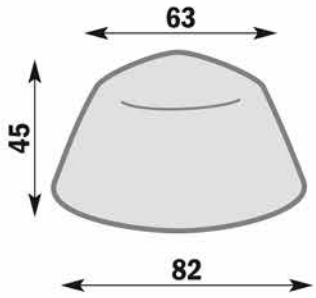


234



238



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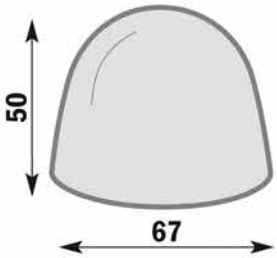

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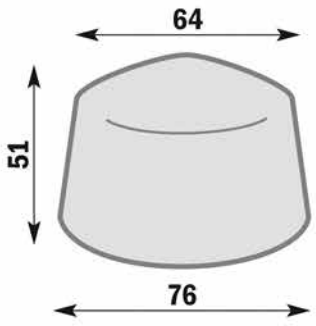
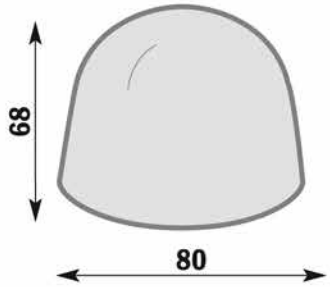


Pads – Cylindrical

Measurements shown in millimeters
Inches = millimeters/25.4

244



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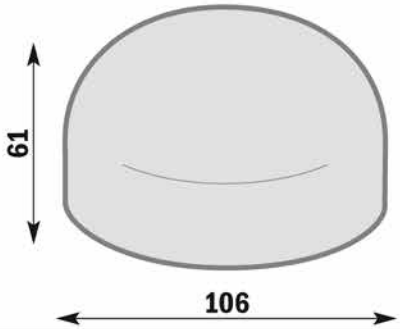

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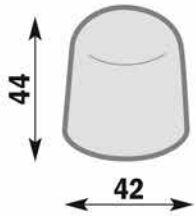

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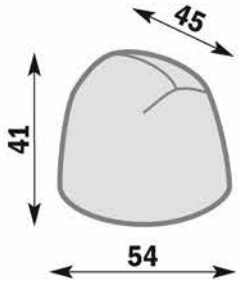

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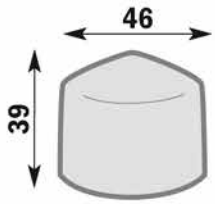

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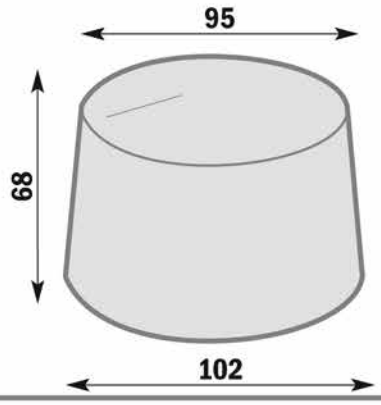

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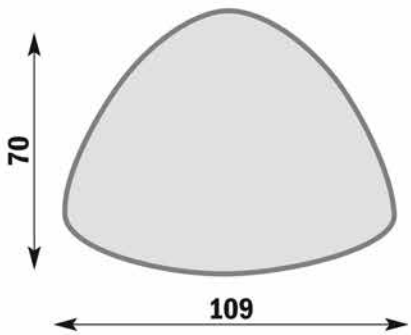

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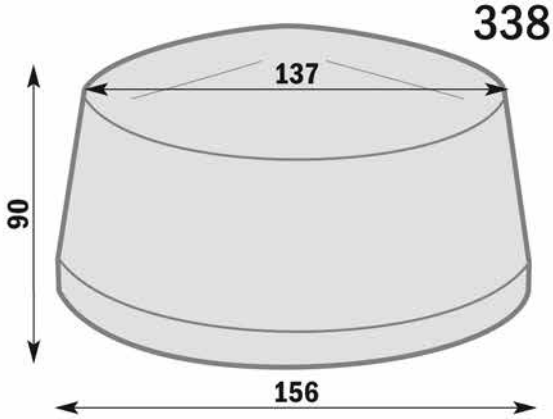
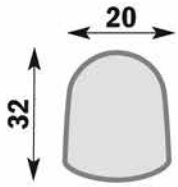


Pads – Cylindrical

Measurements shown in millimeters
Inches = millimeters/25.4

343



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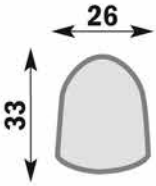

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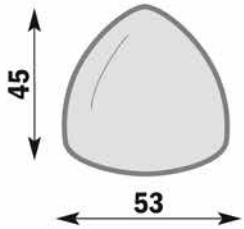

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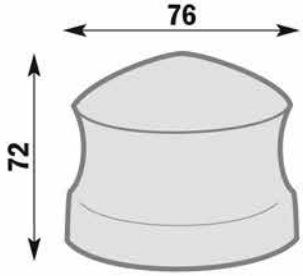

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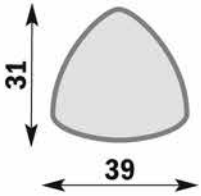

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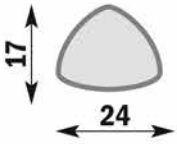

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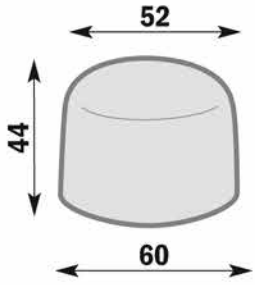

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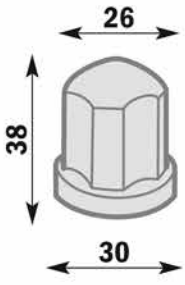
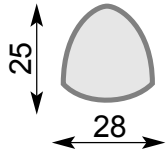


Pads – Cylindrical

Measurements shown in millimeters
Inches = millimeters/25.4

478



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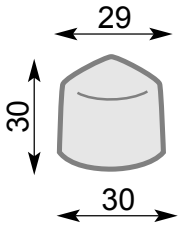

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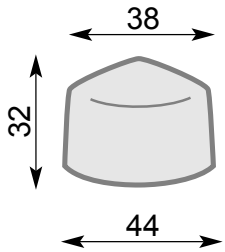

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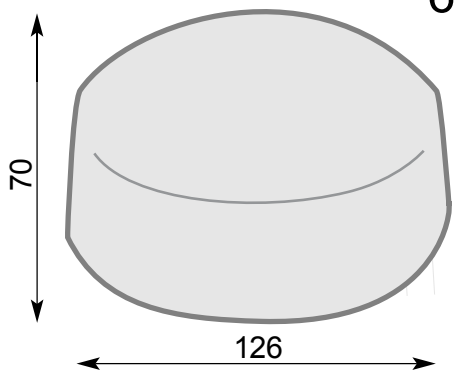
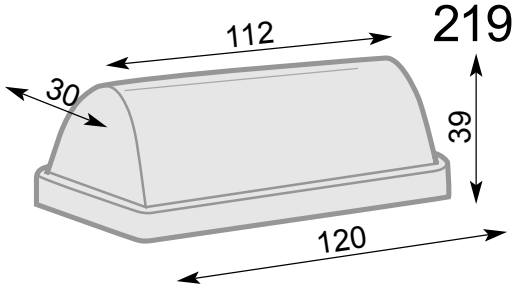


Pads – Linear

Measurements shown in millimeters
Inches = millimeters/25.4

219



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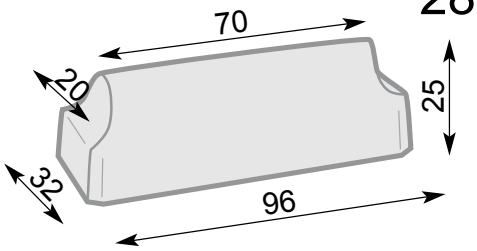

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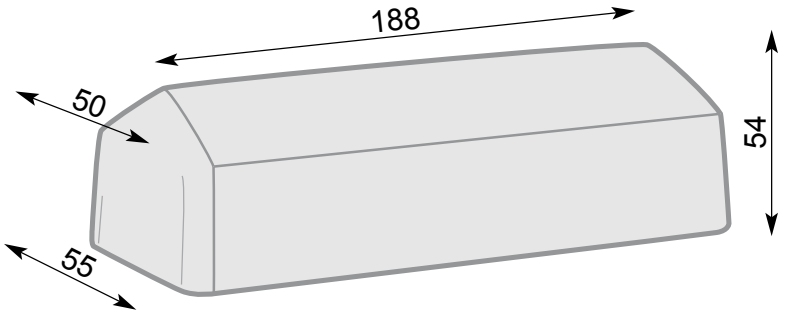
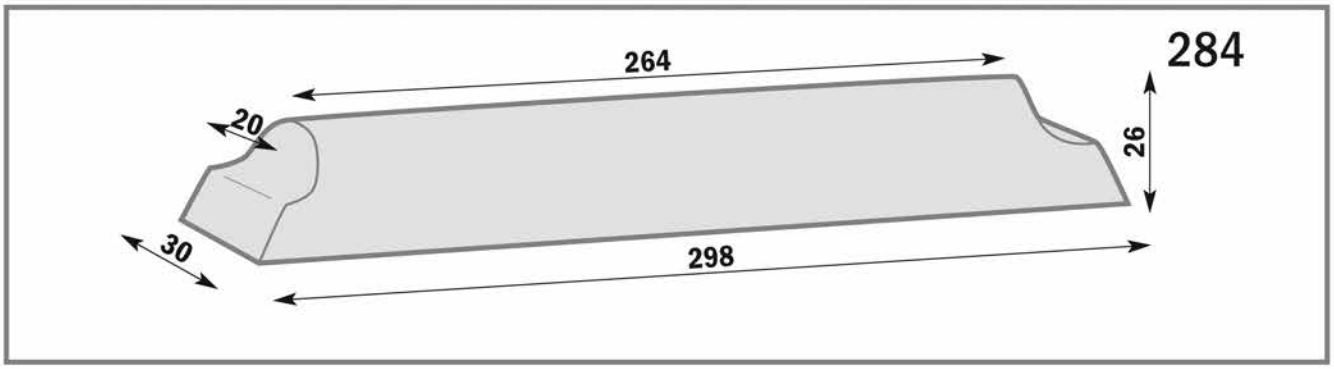
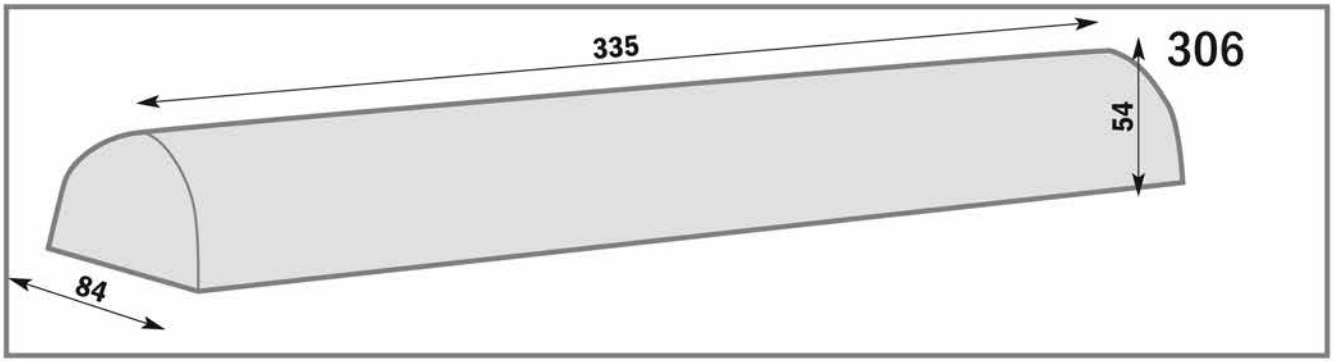
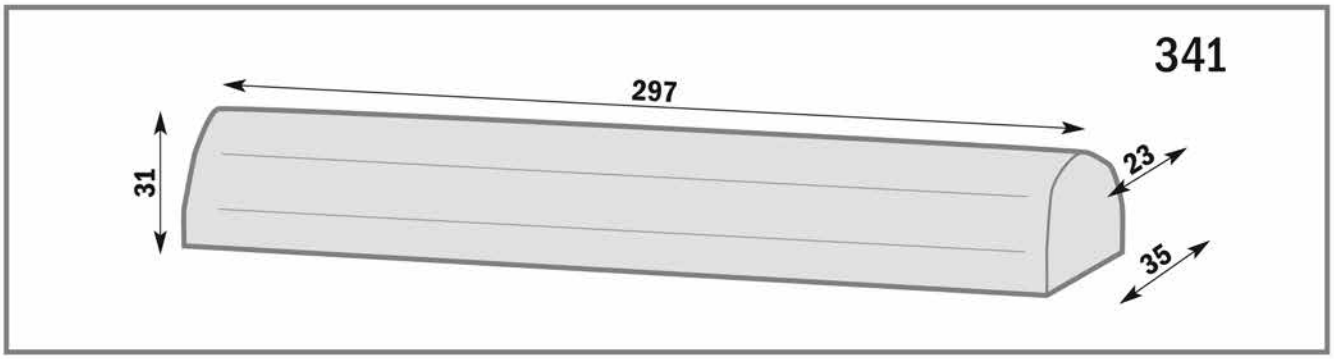


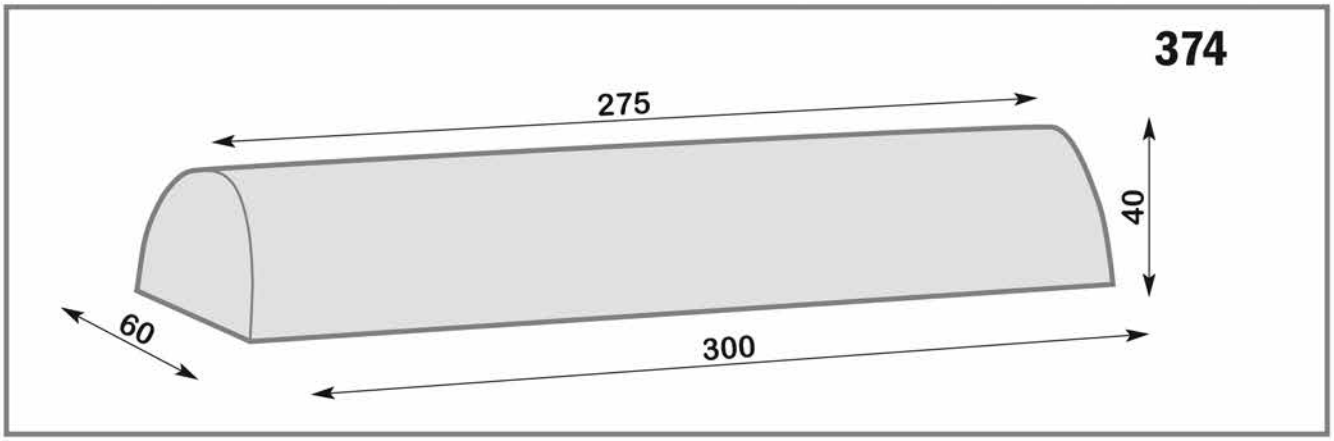
Pads – Linear

Measurements shown in millimeters
Inches = millimeters/25.4









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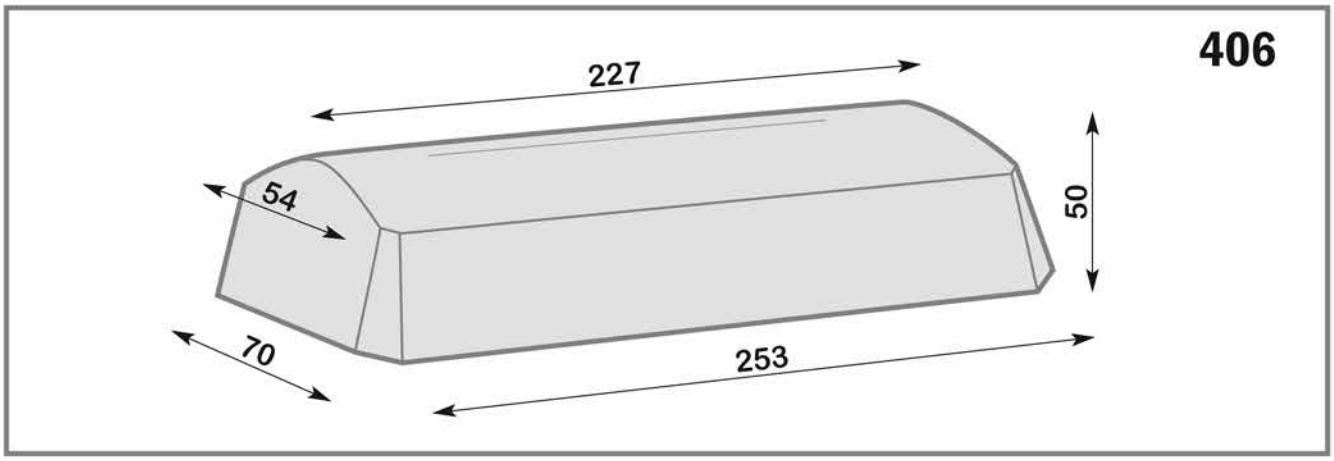

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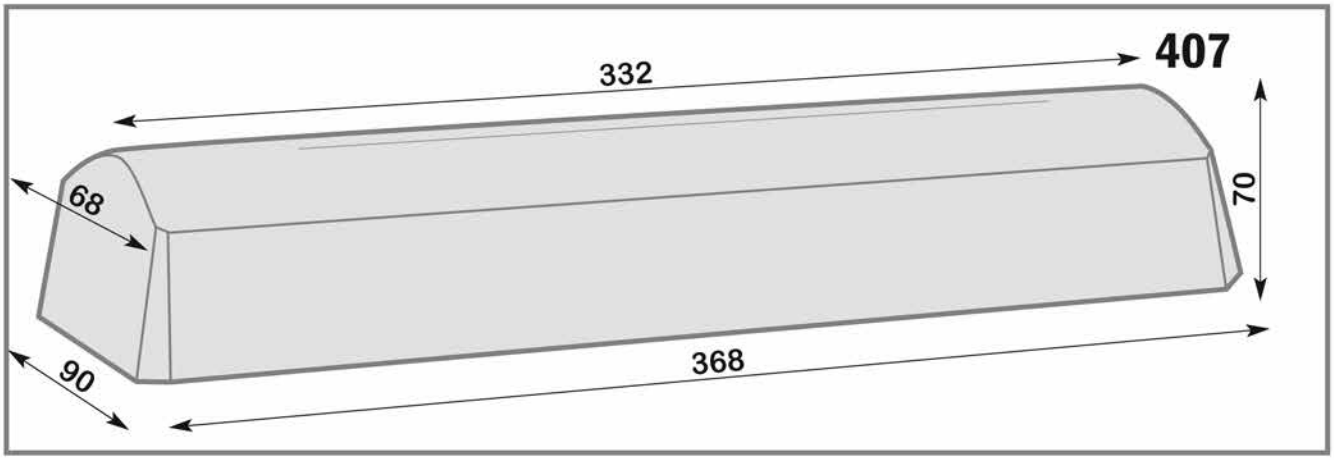

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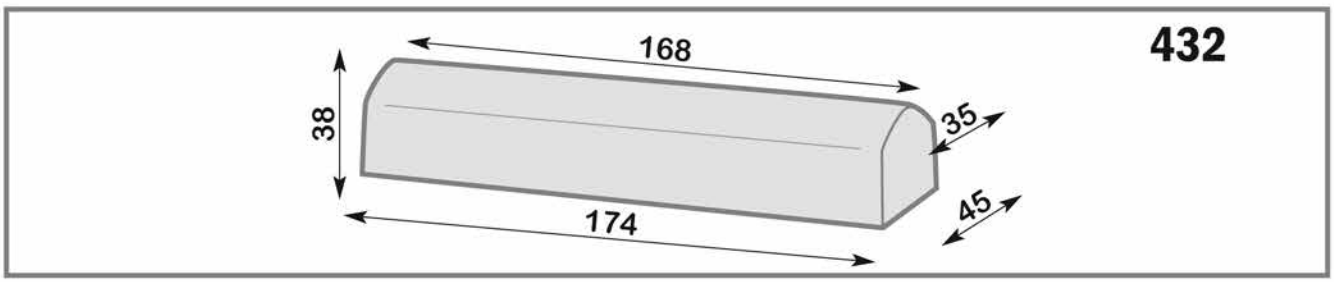

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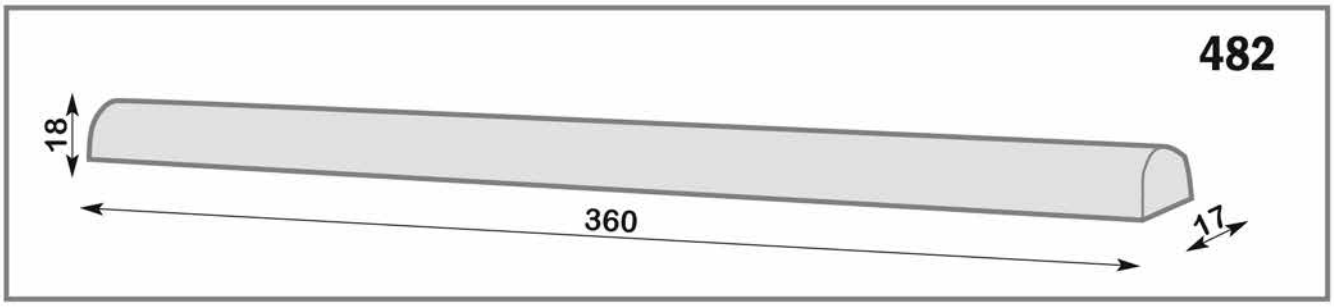
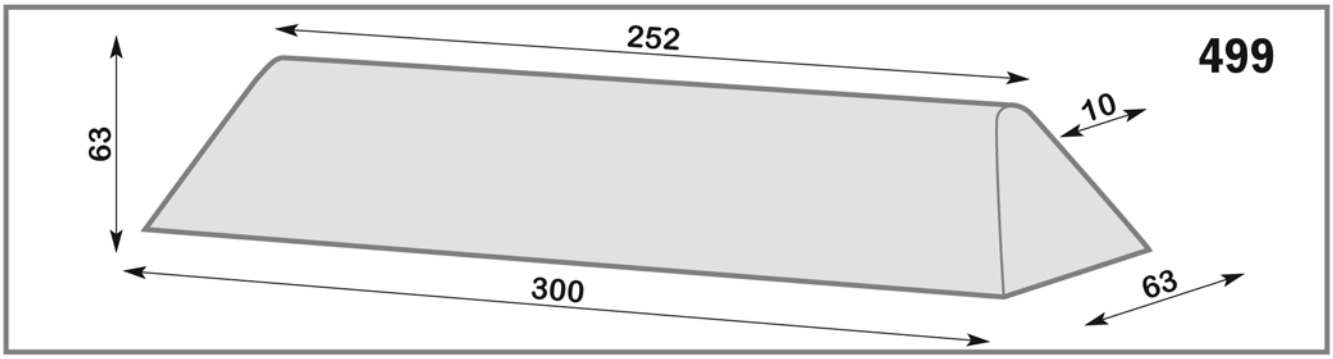


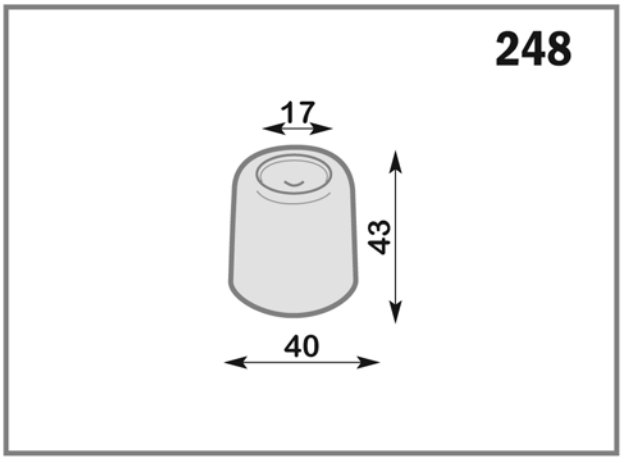
Pads – Linear

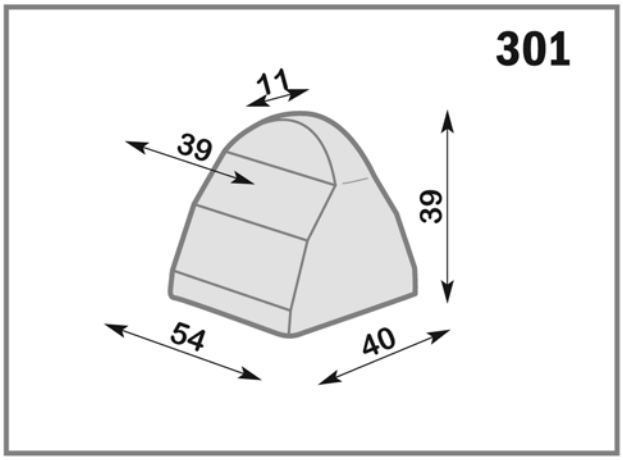
Measurements shown in millimeters
Inches = millimeters/25.4

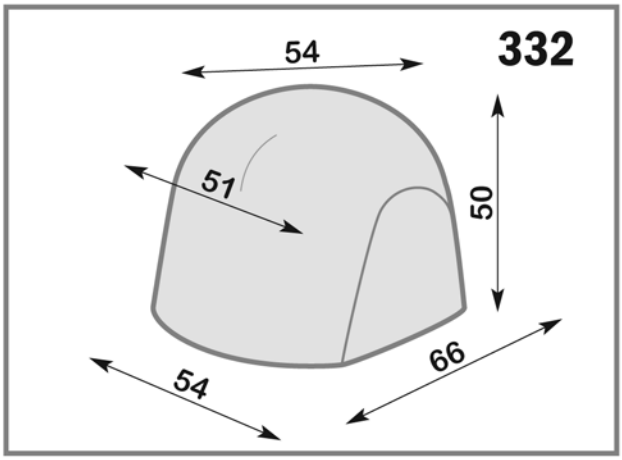


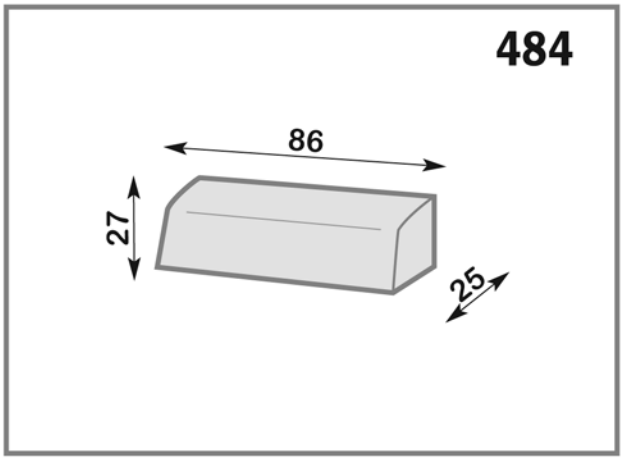
Pads – Special

Measurements shown in millimeters
Inches = millimeters/25.4









Introduction To Plates

The plate *(called a cliché after it's etched)* is the vehicle that holds the inked image that will be transferred by the pad onto the part.

Available plates are:

- **Polymer** -- alcohol or water wash
- **Thin Steel** -- .020" thick
- **Thick Steel** -- .25" thick

Polymer plates consist of a steel backing layer, a layer of UV sensitive nylon, and a removable protective coating. When selecting polymer plate material, cost and number of impressions are determining factors. Polymer plates come in different hardness and are rated for jobs that run as few as 10,000 impressions to projects that extend for 70,000 impressions, or more.

Thin steel plates are bright polish carbon steel, with a Rockwell hardness of 48-52, and a flatness of 0.2%. They are for runs up to 500,000 impressions with a closed cup system, and less than 100,000 with an open well system, and are available in various sizes up to 7.874" wide, both in etched and unetched plates.

Thick steel plates are A2 steel with a Rockwell hardness of 61-62. Thick steel plates are generally not sold as stock, but as etched only, and are most appropriate for long-run jobs. Thick steel plates are rated to last for 1 million impressions. Thick steel plates are custom in all aspects, including size, thickness and number of etches.

For additional information about choosing the proper plate for your application, go to our website at ***www.padprintmachinery.com***, the customer tab, under support center for the article "Selecting the Correct Cliché for your Pad Printing Job."

Important: *The plate life may vary depending on the type of ink you use or the presence of dirt and debris that contaminate the plate surface.*

Information Needed When Ordering a Plate

Our customer service representative will ask you several questions:

- What plate material are you ordering?
- What size (width by length) do you need?
- How many plates do you want to order?
- Do you want us to punch holes in the plates for you?
- Do you want us to etch the plates for you?
- If you etch your own plates, do you need any more supplies?

*(See **page 63** for plate making accessories)*

Plate Ordering

Ordering Plates

When ordering etched plates, understand that the turnaround time hinges on timely receipt of correctly formatted artwork. Unetched plate stock turnaround time is 24 hours from receipt of order. All Polymer Plates are custom cut to size.

**Hole punching is available upon request at no charge.*

To increase your ease of ordering, the following list provides part numbers for plates and a brief description of the plate's characteristics.

#GY1 **Grey Alcohol Wash Polymer**
No. of Exposure: Double
Washing Solvent: Alcohol
Screen: 120 lines/cm or 80 lines/cm, 90% screen artwork
No. of Impressions: 10,000 to 15,000 impressions

#GY2 **Green Alcohol Wash Polymer**
No. of Exposure: Double
Washing Solvent: Alcohol
Screen: 120 lines/cm, 90% screen artwork
No. of Impressions: 15,000 to 20,000 impressions

#GY3 **Grey Alcohol Wash Polymer**
No. of Exposure: Single
Washing Solvent: Alcohol
Screen: .001" layer makes screening unnecessary
No. of Impressions: 15,000 to 20,000 impressions
Ideal for extremely fine detail images

#GY4 **Grey Alcohol Wash Polymer**
No. of Exposure: Double
Washing Solvent: Alcohol
Screen: 120 lines/cm, 90% screen artwork
No. of Impressions: 10,000 to 15,000 impressions

#GN1 **Green Water Wash Polymer**
No. of Exposure: Double
Washing Solvent: Water
Screen: 120 lines/cm, 90% screen artwork
No. of Impressions: 10,000 to 15,000 impressions

#GN2 **Regular Green Polymer**
No. of Exposure: Double
Washing Solvent: Water
Screen: 80 lines/cm, 90% screen artwork
No. of Impressions: 20,000 to 30,000 impressions
Deep etched plates for textile applications.

Hole punching

We are able to punch holes of various sizes, so inquire about our ability to match the punch size you need for your plate. ***Hole punching*** *is available at no charge. Ask for details.*

Plate Ordering (continued)

#AQ Aqua Nylon
No. of Exposure: Double
Washing Solvent: Water
Screen: 120 lines/cm, 90% screen artwork
No. of Impressions: Up to 10,000 impressions

#OR Orange Polymer
No. of Exposure: Double
Washing Solvent: Water
Screen: 120 lines/cm, 90% screen artwork
No. of Impressions: 10,000 to 15,000 impressions

#RD Red Alcohol Wash Polymer
No. of Exposure: Double
Washing Solvent: Alcohol
Screen: 120 lines/cm, 90% screen artwork
No. of Impressions: 60,000 to 100,000 impressions
Plates are custom cut to size
Excellent for fine detail

#RDW Red Alcohol Wash Polymer
No. of Exposure: Double
Washing Solvent: Water
Screen: 120 lines/cm, 90% screen artwork
No. of Impressions: 40,000 to 60,000 impressions
Excellent for fine details

#ORL Orange Laser Plates
Laser plate etching systems
No. of Impressions: 10,000 to 15,000 impressions

#RDL Red Laser Plates
Laser plate etching systems
No. of Impressions: 60,000 to 100,000 impressions

#BQL Blue Quicklase Laser Plates
Laser plate etching systems
No. of Impressions: 10,000 to 15,000 impressions

#TS Thin Steel
- Available in various sizes up to 7.874" wide in both etched and unetched plates
- Cost varies depending on size for etched steel plates
- Etching technique varies according to etch depth desired
- Excellent for fine detail
- No. of Impressions: 100,000 impressions

#TH Thick Steel
- Available in various sizes up to 12" wide
- Cost varies depending on size for etched steel plates
- Etching technique varies according to etch depth desired
- Excellent for fine detail
- No. of Impressions: Up to 1 million impressions
- ***Sold only as etched***

Benefits in Bulk
Ask your customer service representative about price breaks on orders for as few as 25 plates. You can also place a "blanket" order to cover an entire year and get the best deal for 1,000 plates.

Doctor-blades
For those still using open inkwells, we sell doctor-blades in two different heights, and three different widths. You can purchase them individually cut or in a 36-inch roll.

- 3/4" H x .008" W or 1" H x .008" W
- 3/4" H x .010" W or 1" H x .010" W
- 3/4" H x .015" W or 1" H x .015" W

Plate Exposure Units

BR35M

Intro to Exposure Units

An exposure unit combined with a developer kit is an etching system for both alcohol and water wash polymer plates.

Owning an exposure unit is not essential for everyone. Those who need just a few plates in a year can use our art department and plate-making services.

A cost analysis can determine if your needs merit bringing plate making in-house. Likewise, if you need frequent, short turnaround times, you may want to etch your own plates.

Portable Units

Portable units have a programmable timer, built-in vacuum, and a safety switch that enable lamps to be turned on only if the machine is closed. Available in 110 and/or 220V.

We offer two suitcase models:
#BR35M *(pictured)* – will accommodate plates up to 280 x 370mm, uses four 20- watt Sunlamp bulbs, weighs 26 lbs. and measures 500mm x 450mm x 450mm when fully opened.

#BR50M – will accommodate plates up to 350 x 500mm, uses six 20-watt UV bulbs, weighs 66 lbs. and measures 750mm x 600mm x 600mm when fully opened.

Photo Exposure Kits

To get you started quickly developing your own plates - kit includes: Quart tray, developer, magnet sheet, scrub brush, line screen and laser film positive.

Stand-Alone Units

These semi-automatic stand-alone units have vacuum pumps for UV exposure, are thermostat controlled, have a stainless steel developing tank with rotating magnetic planes and a warm air dryer. All functions are independently controlled by a microprocessor, allowing operator to set it and walk away.

#BR35SV – will accommodate plates up to 250 x 350mm, uses six 20-watt UV bulbs, has a 15 liter tank capacity and measures 500mm x 500mm x 1000mm.

#BR50SV *(pictured)* – will accommodate plates up to 350 x 600mm, uses six 40-watt UV bulbs,
has a 20 liter tank capacity and measures 710mm x 600mm x 1000mm.

#BR70SV – will accommodate plates up to 500 x 700mm, uses eleven 40-watt UV bulbs, has a 50 liter tank
capacity and measures 1050mm x 950mm x 1050mm.

BR50SV

Plate Making Accessories

What you need

Bulbs

- Ultraviolet light bulbs for plate exposure units:

  #TL20W/05 – 20 Watt bulb (23") for the BR50M & BR35SV

  #20W-SUNLAMP – 20 Watt bulb (17") for the BR35M & BR35SV

  #TLK40W – 40 Watt bulb for the BR50SV & BR70SV

Developer

- Ethanol solution for developing alcohol wash polymer clichés; No further additives are needed; Available in 1 gallon and 5 gallon containers.

  #DEVELOPERG 1 Gallon developer

  #DEVELOPE 5 Gallons developer

Screens

- For use in the second exposure of polymer clichés for controlling etch depth; Use on thin steel clichés for halftone imaging: Available in 1/2 sheet 6" x 8" and full sheet 8" x 12":

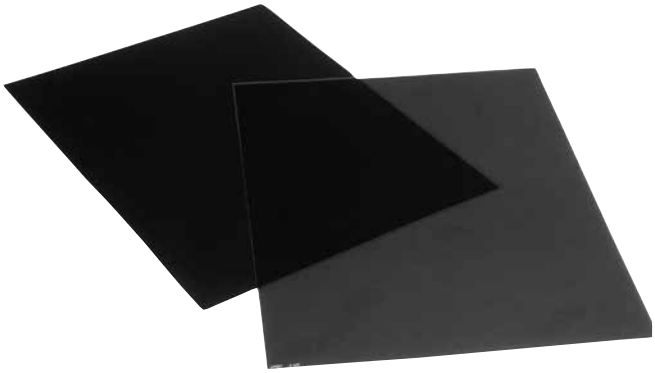
  #RTNA 4 120 Lines/cm 90% screen

  #SCREEN 2 80 Lines/cm 90% screen

  #SCREEN 3 300 Lines/cm 20% screen

  #SCREEN 4 80 Lines/cm 80% screen

  #SCREEN 5 70 Lines/cm 70% screen



Developing Kit

Complete kit for developing polymer clichés, includes:

- Developing tray with lid; Magnetic backing to hold cliché in place; Developing brush; 90% 120 lines/cm screen; 1 quart developer; Grey polymer samples for testing. Order **#KIT**

Neoprene Gloves

- For use with exposure units for protecting hands.

  #1000678 Size 9 Neoprene Gloves, 1 pr.

  #1000679 Size 10 Neoprene Gloves, 1 pr.

Making Polymer Plates

Polymer plates consist of a photosensitive material that changes its chemical composition when exposed to ultraviolet light. This reaction is called "polymerization". The following guide provides a basic outline for making plates.

First exposure:

- Remove protective film from plate.
- Lift the plastic away from the base of the exposure unit.
- Place polymer plate on base of unit. Position film positive emulsion side down aligning with plate punches *(or plate edges if the plate is not punched).*
- Cover the cliché and film with the plastic. Make sure there is nothing under the plastic that will interfere with the developing.
- Set timer to desired exposure time and press the start button.

Second exposure: The second exposure -- or screened image -- regulates the depth of the plate and is done by controlling the time under the UV bulbs, combined with using the 90% x 120 lines/cm or 90% x 80 lines/cm screen.

- Lift plastic. Remove film positive from plate.
- Place line screen over the portion of the image to be fully etched, emulsion side down.
- Cover the cliché and film with the plastic *(making sure there is nothing under the plastic.)*
- Set timer to desired exposure time and press the start button. At end, remove the exposed plate and its screen from the exposure unit.

Etching depths: If the etched depth is **too shallow**, the 2nd exposure time is **too long** -- allowing for less of the polymer to wash away. The etch should catch your fingernail when scraped across the image.

If the etched area is **too deep**, the 2nd exposure time is **too short** -- in which case the dot pattern will almost disappear and allow for “scooping” of the ink.

Developing Alcohol wash plates: Place plate in a tray of alcohol-wash solution. Temperature of solution should be slightly above room temperature 26 -28° C. Lightly rub surface for an additional 90 seconds with the developer brush, changing directions every 10 seconds.

Developing Water wash plates: Wash plate under water for 2 minutes. Temperature of water should be slightly above room temperature 26 -28° C. Dry immediately with pressurized air gun or blot with no-lint towel to stop etching process.

Curing Alcohol & Water wash plates Bake in oven at 180°F for 15 minutes to cure the plate. Place back in exposure unit for 15 minutes *(no vacuum needed).*

This post exposure hardens the plate and insures the polymer is insoluble and less likely to scratch. The plate can now be used.

Troubleshooting

The work space used for plate making must be out of direct sun, as it contains UV light which will affect the polymer plate’s surface. Using yellow safe lights, or ultraviolet protective screens in your light fixtures is beneficial.

Here are some common problems and their causes:

Image fuzzy or will not wash out -- Density low on film. Emulsion placed on wrong side. Air trapped between film and plate. Over exposure.

No image *(no latent image)* -- Incorrect light source. Under exposure.

Image depth too shallow -- Screen exposure too long. Not enough wash time. Alcohol solution may be incorrect or expired.

Blisters – Dryer too hot (exceeds 200°F).

Premature wear – Plate not sufficiently dried. Post-exposure too short. Improper tension on the ink cup. Operating with an open inkwell system.

Artwork Requirements

Key to achieving great printing is to start with high quality graphics -- and the art requirements for Pad Printing are exacting and specific.

Our Graphics Arts Department can help, whether you are starting from a sketch or a pen-and-ink original, we have the tools to create high-quality films that will make high-tolerance etched plates.

Our precision capabilities save on production floor labor expenses. Better art up front means fewer difficulties on the machine at the end.

Help us help you

We use PC platforms running Windows operating system and support versions 3.1, 3.11, 95, 98, 2000, NT and XP. Mac users should save files with a file name such as: “filename.eps”. The three letter file extension (.eps) should represent the program the file was created in. Some common file extensions are: . ai, .eps, .pdf.

Our supported file formats (in order of preference):

- Adobe Illustrator (.ai, .eps, .pdf)
- Adobe Photoshop (.psd, .eps, .tif, .bmp)
- InDesign (.indd)
- Corel Draw

Note: CAD files (.dxf or .dwg) are NOT considered artwork files.

They can be used as guidelines only. Most industry standard graphics applications allow exporting files to one of the above formats, or send it as an AutoCAD 2000 file.

A common problem in transferring artwork files is that the fonts used may be special fonts we don’t have. To avoid this problem include any and all True Type Fonts that were used to create the artwork or convert the fonts to outlines or curves if the program allows it.

Include all placed images when sending your artwork.

Films sent should be at actual-size with the emulsion side down *(while looking at the image as it is to appear for printing.)* Please call to discuss before sending films for multi-color or process-color work.

An approval form will be sent and will require a signature before any plates will be made.

Troubleshoot Online

If your printing shows any of the following symptoms, check our online Troubleshooting Guide:

- Blurring or sharpness
- Ink does not meet adhesion requirements
- Small pinholes are apparent
- Colors transfer between pads on multi-color jobs
- Uneven ink thickness
- Distortion in printed image
- Opacity of ink is poor
- Smudged image
- Mis-registration of colors in multicolor print
- Image appears blotchy
- Ink sticks to pad surface
- Hairs on edges of image
- Fine lines begin to close up

Go to: www.padprintmachinery.com

Important Information

Business Hours

Office hours are **Monday through Friday**, 8 a.m. to 5 p.m., EST, except United States federally recognized holidays.

Toll Free: 1.800.272.7764
Fax: 802.362.0858
email: info@ppmovt.com or customerservice@ppmovt.com

Minimum order

There is no minimum order.

Training

Technical training on all our equipment is available either at our location in Vermont, or at your facility. When you order your machine, quotes and arrangements can be made for training.

Terms

Net 30 days for companies with approved credit. All other orders must be accompanied by Visa / MasterCard / American Express payment, or direct wire transfer of funds until open credit has been established.

Freight

All shipment costs are paid by the customer from Vermont, including freight charges and hazardous materials charges, if applicable. Actual shipping costs are billed. Customers may also provide Account Numbers for shipping via a selected carrier.

Returns

All returns require a **Return Materials Authorization (RMA)** number. *All returns are subject to a 20% restocking fee and **must** be made within a 30 day period. Special or custom orders are not returnable.*

Material Safety Data Sheets

MSDS sheets for our inks and additives are on our website: ***www.padprintmachinery.com / Support / MSDS Online Library.***

Emergency Number

For hazardous materials call ***1.800.535.5053.***

Dovetail Assembly

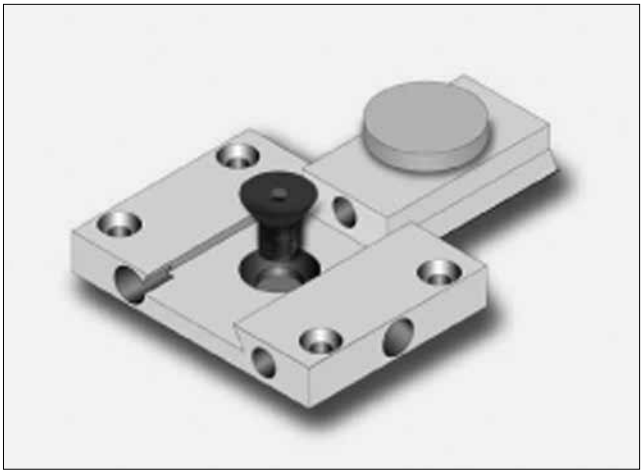
As a service to our customers, Pad Print Machinery uses a dovetail assembly.

This unit will make securing the pad faster and easier. Another advantage to this system is the positioning of the pad. The screw allows the pad to be positioned in the center every time and will make changeovers and machine set up quicker.

Pad Print Machinery will, at the customer's request, drill holes into their existing dovetails at no charge and will return them via UPS Ground at no charge.

If you would like to do this modification yourself, the dimensions are as follows: One countersink hole for 3/8" x 16 flat head screw exactly in the center of the dovetail. An undercut 3/8" x 16 x 1/2" screw is to be used to attach the pad.

Please feel free to contact us at 1-800-272-7764.



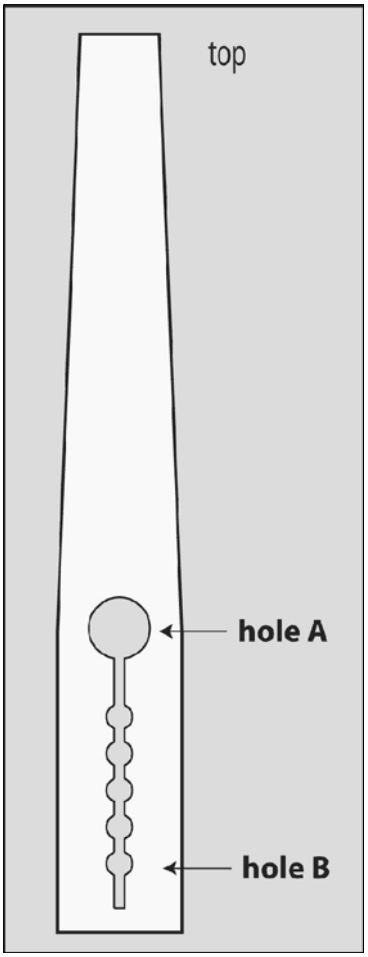
Dovetail Assembly

Viscospatula Use Instructions

General Description

The **viscospatula** is designed as a simple but efficient tool to assist you in establishing a consistent and reasonable accurate viscosity when mixing inks for use in your pad printing machinery. You will notice the five smaller holes at the wider end of the spatula. The speed at which your ink runs from the top hole (number one) to the last hole (number five), is the measure of an ink's viscosity.

Remember: The thinner the ink, the faster it will move from the first hole to the last.



Method of use

1. Mix the ink in a coffee size cup using the spatula and add thinner until the ink is at the viscosity that appears correct.
2. Dip the spatula into the ink until "A" is covered.
3. Remove the spatula from the ink until the spatula is no longer submerged in the ink.
4. Immediately when the ink runs out of the hole "A", begin counting. Once the ink passes hole "B", the number you have counted to is your reference count.
5. This same procedure can be used to maintain consistent ink viscosities for any inks you use. Once you have an ink working properly on a particular application, use the viscospatula to identify it's viscosity setting and establish a point to mix the ink at the next time that you need to perform a similar setup.

When the viscospatula is new, it will naturally take longer for the ink to travel down to hole number five. This is due to the pores in the plastic still being open and creating a slight bond with the ink. Once the viscospatula has been broken in, a suggested time of 6 - 8 seconds should work well under normal conditions with a plate that has been etched to a depth of approximately .001" or 25µ. The suggested time will vary depending on the specific application and ambient conditions.

As a general rule, the deeper the plate etch depth the thicker the ink should be; however, remember that the plate depth has definite restrictions, and etch depths that are too deep will create certain types of printing problems.

Using the Catheter Pad Gauge Print Alignment Tool

The Catheter Pad Gauge is used to accurately determine the optimum location of images on a catheter pad - from one need to the other - for consistent high quality catheter printing with minimal losses during setup and production.

1. Cycle machine to the point where the ink is picked up from the cliché. *(Use caution while run cycles are executed: stay clear of moving parts and pinch points until the cycle is complete)*.
2. Remove the catheter pad from the machine by loosening the two locking bolts. Place the pad on its base so the inked image is visible, facing up. Using the Catheter Pad Gauge, select an image at one end of the catheter pad. Place the gauge over the image so the engraved side is facing the operator. Make a note of where the front edge of the image is on the Catheter Pad Gauge.

   Figure 1: *The Catheter Pad Gauge allows the operator to line up each image on the pad in exactly the same location from end to end on a long catheter pad. Your print position may vary from illustration depending on catheter diameter and artwork size.*

   Note: Between cycles, clean excess ink off catheter pad with adhesive tape.
3. Replace the pad onto the upper dovetails and rotate the depth bolts on the lower dovetails: *(see figure 2)*.
   - Counterclockwise moves the catheter pad back toward the rear of the machine.
   - Clockwise moves the catheter pad toward the front of the machine.
4. Tighten the lock bolts. Repeat steps 1-3 until gauge shows the print is consistently in the same location on both ends of the pad.

   Note: The Catheter Pad Gauge is an alignment tool set consistent relative placement of images from one end of a long catheter pad to the other. It is not a measuring tool.

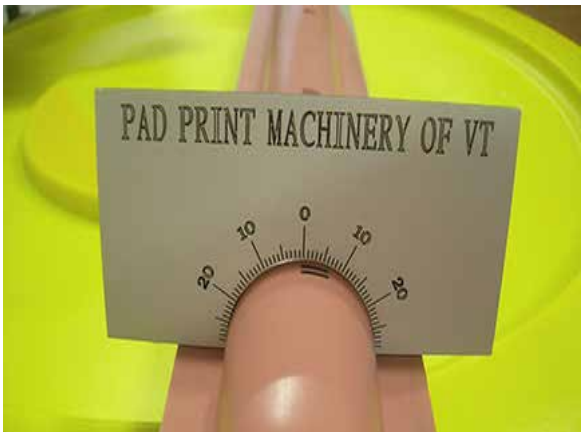


Figure 1: Catheter Pad Gauge

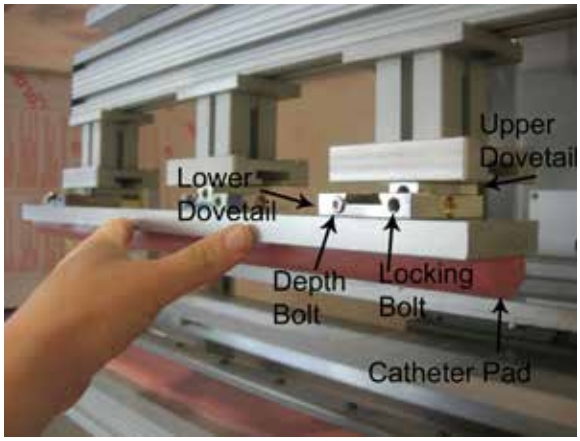
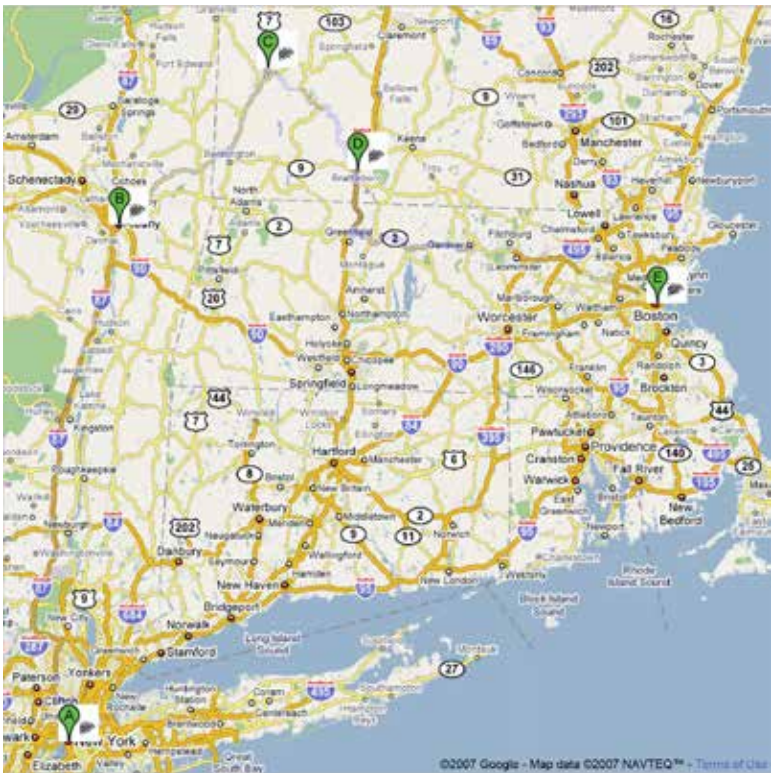


Figure 2: Dovetail with Catheter Pad

Notes

Pad Print Machinery of Vermont *is located in the Green Mountains of Vermont. The quality of life here is reflected in the people who live and work here. Built on traditional New England values, this area thrives not only because of the beauty, but also because of the people who call it home. Our company is where it is today because of our people. We're proud of who we are and proud of what we do.*



Directions

From Boston *(about 3 hours 42 mins.)*: Rte. 2 or I-90 West to Rte. 91 North to Brattleboro, VT. Take Exit 1 to US-5 and follow signs to VT Rte. 30 North. Continue for approx. 40 miles to "T" intersection with VT Rte. 11/30 West. Continue about 8 miles to the "T" intersection and turn right onto Rte. 7A. We are about 4 miles on the right.

From Albany *(about 1 hour 33 mins.)*:
I-87 North to exit 7, merge onto Rte-7 E toward Cohoes/Troy (for 29 mi). Take Bennington Bypass in Vermont and continue on VT-279 to ramp onto US-7 N (for 26 mi). Turn left at VT-7A ~1 mi. Turn left at Tennis Way and take first right to our parking lot.

From New York City *(about 4 hours 14 mins. up to 5 hours 10 mins. in traffic)*:
I-87 N/New York State Thruway North 118 mi. to exit 23 and merge onto I-787 N toward Albany/ Troy. Take exit 9E to merge onto Rte-7 E toward Cohoes/Troy (for 29 mi). Take Bennington Bypass in Vermont and continue on VT-279 to ramp onto US-7 N (for 26 mi). Turn left at VT-7A ~1 mi. Turn left at Tennis Way and take first right to our parking lot.

Customer Service

Sales Engineers

Tech Support

Point of Contact

Whether it's your first time calling or you're an old friend and know us all by name, we want your experience to be the best it can be. After all, even the finest engineered machinery on the planet loses its luster when the support team doesn't share your goals. Bring us your ideas.

We'll make it work for you.

Pad Print Machinery *of* Vermont

201 Tennis Way, East Dorset, Vermont 05253

800.272.7764 / F: 802.363.6323 / **www.padprintmachinery.com**