

The Dynamic Systems newsletter is published twice a year and is available to customers free of charge. The newsletter covers the following topics of interest: new product development, company announcements, project updates, product applications, and study results from product tests performed in-house and by other institutions.

dynamic systems

NEWSLETTER

Spring/Summer 2003 Volume 11, Number 1

Improved Access to On-line Price Sheets

New Addition to Web Site

In an effort to make its web site more user-friendly, Dynamic Systems recently revised its on-line price sheets. A review of the web site statistics at the beginning of the year indicated that product price sheets are the most popular pages on the site. This, combined with calls from customers having difficulty downloading the prices from the web, provided the motivation to improve access.

Customers can now find prices for all cushion products and accessories by visiting the main site: www.sunmatecushions.com and clicking on the price information link in the left-hand column. Or, access the price sheets directly by typing: www.sunmatecushions.com/prices.htm in the internet browser's search field.

An overall site redesign is currently underway. Additions will include a Frequently Asked Questions page (see insert in this newsletter), new product information, special project features and downloadable product literature. Check the site periodically to see what's new.



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SunMate Cushions for Veterinary Use

Orthopedic Cushion Applications

SunMate cushion materials have long been an asset in the health care field. Used as preventive medicine, protection for injury, or just a means of affording comfort in situations where other forms of relief are inadequate, we feel privileged each time we get a chance to alleviate human suffering. So why stop there? The same medical advances that are applied to the treatment of human ailments can easily be transferred to veterinary applications.

Bracing and Splinting Applications

The Autumn/Winter 2002 DSI Newsletter featured Equine Prosthetics, Inc., a company which uses SunMate padding in splints, braces, and prostheses for horses and dogs. The Firm formulation of SunMate has even been used to cushion a special cast made for the injured knee of a 300-lb ostrich.

When a large animal suffers a leg injury that requires bracing or splinting, healing can be a long, slow process. Young animals and highly active animals don't always understand that they are injured. While wearing a brace, they may still try to run, kick, and play, or the splint may be so uncomfortable that they bite at it or tear it. All this activity irritates the wound and abrades the surrounding skin as well. Using a layer of cushion material beneath the orthotic can speed the healing process by cushioning against these sources of complication.

Both Pudgee and SunMate offer cushioning advantages sought by veterinary professionals.

Cushioning is so important in caring for injured animals that the Columbia Animal Hospital lists adhesive padding as the second item to pack in a travel first-aid kit for pets. Padding in splints helps insure good blood circulation in spite of tight or damaged bandaging, or subsequent unexpected tissue inflammation. If an animal has an open wound on a foot pad, and is allowed to run around, the protection afforded by an uncushioned bandage will be useless at best. (See www.cah.com/template.html for great animal first aid ideas.)

Both Pudgee and SunMate offer cushioning advantages sought by veterinary professionals. Pudgee works well in first-aid cushions because its shearing properties help reduce friction. It wicks moisture away from the skin surface and is extremely pliable, so it conforms easily to the bony contours of an animal's leg. SunMate also works well because its open cell structure allows air to flow through and thereby reduce heat buildup. It is available in varying grades of firmness and a wide range of thicknesses. The cushions can be added to traditional splints or the newer Velcro splints used by veterinarians.

Continued inside.



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Product Questions?

If you have an idea for using SunMate products, but are unsure of how to proceed; or if you have begun a project, and have reached a problem area, give the DSI technical staff a call. Our staff will help you determine the best material for your use.

Product Information

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"SunMate Cushions for Veterinary Use" continued from front.

Orthopedic Padding

SunMate is commonly used in wheelchairs for people and could serve a similar purpose used in animal wheelchairs. These two-wheeled carts are made for dogs and cats that require mobility assistance due to injury, genetic disability, paralysis or amputation. The carts are designed to support the body comfortably, while affording mobility and assisting the healing process by stabilizing limbs undergoing treatments. Padding is worth a pound of cure in any type of sling, collar or harness. A harness cushioned with SunMate and waterproofed or covered in a comfortable, washable fabric, can be gentle, sanitary and long-lasting.

Foam products can also be very helpful in preventive veterinary medicine. Prevention can involve something as simple as a therapeutic mattress. A high-quality, medical grade SunMate cushion (32" x 37" x .5") can be purchased for \$26, and is available in a range of support pressures that can accommodate Toy Poodles, Great Danes and anything in-between.

Saddle Fitting for Horses

Saddle fitting is another application where SunMate cushioning has helped make an animal-friendly difference. Saddles are often designed and selected with only the rider in mind. As saddle selection must take into consideration the performance requirements for a given riding style, the body structure of the rider, and the amount of support needed. It is easy enough to settle for an inappropriate saddle fit without even considering the horse's needs.

Master Saddler David Young can tell when a saddle fits poorly. The horse may shy away when approached with a saddle, or toss his head, fidget, or even try to buck a rider off once tacked up. A horse's gait tells much about his saddle fit. Tight, stiff movements are usually replaced with smooth, flowing shoulder motion once a correct fit is achieved. The immediate difference can increase gait scores by one or two whole points.

As underrated as it may be, correct saddle fitting is very important to the horse. A horse wearing an ill-fitting saddle may demonstrate an awkward gait because it is trying to alleviate or compensate for pinching and gouging, cutoff blood circulation, or tissue abrasion. Since each horse is different, a lot of trial and error may be involved before a saddle fits just right. A good fitting saddle won't slide, tilt, twist, bounce, or rub against moving bone and muscle when the horse is trotting or running. Saddle fits must also change as a horse grows and builds muscle with exercise, or loses toning after a long layoff; and sometimes the saddles simply wear out and need refurbishing.

The importance of good saddle fitting has long been valued in England, but it wasn't until four years ago that Gene Freeze and Joyce Harman, DVM started the Master Saddlers Association (MSA) in the United States to set standards and provide very thorough certification courses for the craft. Gene is the only person in the United States to be registered as a saddle fitter by England's Society of Master Saddlers. Operating out of Woodbine, MD, the MSA is highly respected and valued for the work it does.

David Young teaches nine points of saddle fitting in MSA certification courses. Participants learn how to evaluate saddle trees, but always leave necessary adjustments in the hands of factory-authorized craftsmen. Once the tree fits properly, the

saddles are examined for gaps, pressure points, and stability. Straps may be added or adjusted, and flocking (stuffing) must be added to evenly distribute the rider's weight. Evaluations are made for any type of motion the horse may exhibit.

The latest addition to David's otherwise traditional English toolkit is the SunMate shim. David uses and recommends these pads for balancing saddles because they're versatile, resizable, and easy to install or reposition, and they do not introduce extra pressure points. For more information on saddle fitting, visit the MSA web site www.mastersaddlers.com or call 301-570-3100. A good article by Stacey Nedrow-Wigmore, "The Nine Points of Saddle Fitting," is also available at www.equisearch.com/tack/eq9points447/index.html.

Saddle Pads

Another application for SunMate cushion materials that horses can appreciate is their use as saddle pads. Pad selection often must take into consideration as many unique criteria as saddle selection. A good saddle pad will cushion the horse's back against the weight and motion of the rider. It will also wick away moisture from the horse's skin, keep the horse cool, weigh as little as possible, protect the saddle from dirt and sweat, and absorb shock.

Because SunMate cushion material provides all these benefits, it is the padding of choice in some very excellent saddle pads on the market. A simple sheet of SunMate can make a nice pad by itself, or SunMate material may be used to build up deficiencies in another pad. One manufacturer uses SunMate FIPS to custom-mold saddle pads and pad add-ons for horses with asymmetrical backs, high withers, or injury.

There are many ways SunMate, Pudgee and FIPS can be used to help comfort our animal friends. Judging by the increase in inquiries from vets, animal therapists, and others who work with animals on a daily basis, it has become apparent that SunMate is not just for people anymore!

Cushion Facility Construction Update

Watch Us Grow!

April saw construction on the second module of the new production facility begin to take shape. Derek Kent, a mechanical engineer and graduate of NC State University, came on board in January 2002. He has been primarily responsible for designing the steel framing and assemblies of the second module. Most of the wall and roof frames were assembled on the ground, a crane was hired to lift the heavy parts into position, and a construction crew bolted them into place. The entire frame went up in two days.

The second module will have 4,500 square feet and will house the production office, bathroom and additional SunMate manufacturing space. The first module has been operational since October 2001. It is a climate-controlled area with shipping docks on either side. Windows and doors are currently being installed on the second module, then comes insulation, siding, drywall and electricity. In a few months, SunMate manufacturing will shift to the new plant. Bill Soderlund, DSI's electrical engineer, has been working with his team on electrical requirements and automated features to increase the overall efficiency of SunMate production.



Contour Cushions Available

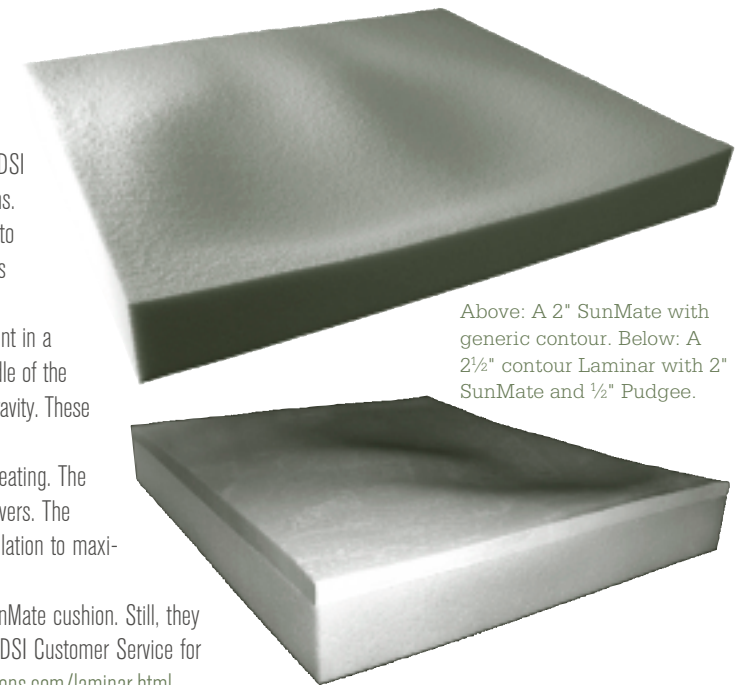
Product Spotlight

Most DSI customers are familiar with standard SunMate and Pudgee cushions. For increased comfort and performance, the two can be combined to create a Laminar cushion. What is not so widely known is that DSI also manufactures standard-sized SunMate and Laminar contour cushions. The SunMate layer must be a minimum of 1½" thick before contouring to allow for the depressions, however 2" to 3" is recommended. Customers should bear this in mind when specifying cushion size.

The generic seat profile provides enough slope to hold a wheelchair client in a more secure and upright position. The seat indentation slopes into the middle of the cushion, elevating the legs slightly and providing a more stable center of gravity. These cushions are ideal for clients with little to no muscle strength or control.

DSI also manufactures contour cushions for use in aircraft ejection seating. The contoured seat helps hold the pilot in place during extreme flight maneuvers. The material used for ejection seating is cut from the firmest SunMate formulation to maximize energy-impact absorption.

A contoured SunMate cushion costs a little more than a standard SunMate cushion. Still, they are one of the most affordable contour cushions on the market. Contact DSI Customer Service for pricing and more information, or visit the web site at www.sunmatecushions.com/laminar.html.



Above: A 2" SunMate with generic contour. Below: A 2½" contour Laminar with 2" SunMate and ½" Pudgee.

Training Requirements for Foam-In-Place Seating (FIPS)

FYI

DSI has been taking strides to insure that FIPS users are properly informed about the FIPS system before they order and use the product. Generally, the Foam-In-Place Seating system is safe and easy to learn. It is a fast, efficient and low-cost solution for complex assistive seating needs. However, proper training is the key to a successful pour.

The system involves three separate chemicals which require mixing in a specific order to react properly. Following instructions and knowing about chemical handling and safety is mandatory for user and client safety.

Verification Form

Safety is DSI's primary incentive for requiring users to verify FIPS training before it will ship orders for the liquids. Customers intending to use the FIPS system must sign a form stating that they have completed and understand the contents of the FIPS Instructional Video and FIPS Manual, or have attended the FIPS Workshop. Training is available in a variety of methods at different levels of cost in order to accommodate as many users as possible. For more information on FIPS training, visit the web site www.sunmatecushions.com, or contact Cathy Ramsey, DSI's FIPS Specialist (cathy@sunmatecushions.com or 828-683-3523). Once DSI has a signed verification statement on file, customers may place orders as often as they like.

Resell Agreement

Resellers of FIPS units are required to be trained in the FIPS system and are required to keep the necessary instruction and material safety documents on file in case their customers call with questions or concerns. Distributors are requested to keep verification forms (supplied to them by DSI) on file for customers who order Liquid SunMate through them.

ATTENTION

These chemical contents are only to be used by individuals trained in their proper use and safe handling through the FIPS instructional video, manual or workshop offered by Dynamic Systems.

Users of the Foam-In-Place (FIPS) chemical system are required to have been instructed or trained in the proper safe handling of the ingredients and have a signed verification form of such understanding on file at Dynamic Systems, Inc. or that of their supplier.

If this is not the case, please phone Dynamic Systems, Inc. at 828-683-3523 or fax at 828-683-3511.

This caution statement now appears on the instruction and MSDS booklet included with every FIPS unit shipping from DSI.

Caution Labels

Users sometimes inadvertently throw out important instruction materials when unpacking their FIPS units, so labels have been added to the outside of the packaging as reminders. A bright yellow caution label has also been printed on the outside of the instruction booklet alerting users that they MUST be trained in the proper use and safe handling of FIPS before using the product.

Spill Protection

A "Spill Protection, Prevention & Treatment" flyer has been added to the FIPS Instruction Manual. It provides a safety checklist and thorough instructions for cleaning spills of individual chemicals and chemicals that have already been mixed. We hope FIPS users will take the time to carefully read through the material for the safety and well-being of everyone involved in a pour.