



CONNECTIONS

Sealant Technologies

NEWSLETTER

GFO® Packing: Proven Performance for Over Thirty Years

Hundreds of powerful “before/after” field tests prove the effectiveness of this unique packing material.

GORE® GFO® Packing has been one of the stars in the lineup of powerfully effective Gore Sealant products for many years.

And why not? Packing products containing 100% GORE® GFO® fiber deliver consistently high performance to maintenance managers seeking a superior general service packing solution for wide application and use.

Unlike competing PTFE/graphite packing products, those made with 100% GORE® GFO® fiber give unmatched assurance and confidence to users. It’s why we always like to say, “Pack it and forget it!”

We Have the Proof

As one way of confirming the success of our product in diverse processing applications, we have conducted many field trials comparing the improvements attained in performance, durability and longevity after switching to packing materials made with 100% GORE® GFO® fiber.

We have just published an updated booklet that contains more than 325 of these actual case examples. It’s a handy reference tool that you can use and share with customers who face particular sealing challenges or are just looking for more improvements in seal durability and longevity.

Each case example is presented in simple terms, outlining plant and processing conditions such as:

- Industry type
- Equipment used
- Shaft size and shaft speed
- What is being processed (*medium*)
- Discharge pressure
- Temperature

Continued

November 2012

IN THIS ISSUE

- [New GORE® GFO® Packing Case History Booklet Published](#)
- [Industry Spotlight: Pulp & Paper Mills](#)
- [Fluid Sealing Training Coming in 2013!](#)
- [From the Inside Sales Desk](#)



Pack It and Forget It.™

[◀ Back to top](#)

▶ Key Features

- 30+ years of proven performance
- Non-asbestos material
- Temperature-resistant ... chemically resistant
- Excellent lubricity and high thermal conductivity
- Will not harden
- Minimum shaft scoring or other damage
- “100% GFO®” printed on the packing to assure authenticity

Also identified is the type of previous packing material used and its packing life, which is then compared to the new packing life achieved once new packing containing 100% GORE® GFO® fiber was substituted.

Many Industries and Applications

The field trials in the booklet cover a wide range of industries and applications such as chemicals, pulp and paper, asphalt, rubber, sewage treatment, utilities and many others.

The cases also encompass dozens of different process media ranging from water, condensate, sewage and slurries to oil, sodium compounds, acids, other chemicals, and many more.



Our case history booklet also includes a handy cross-reference tool, making it easy for you and your customers to quickly identify the case histories that are of most relevance and interest.

Convincing Results

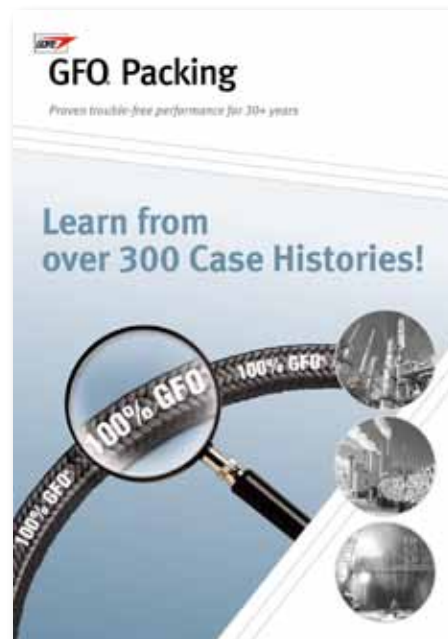
Of course, each field test is its own unique situation, solving particular challenges that were

faced by actual end-users. But in every case, packing life was extended by a significant amount.

In fact, if you take an average of all 300+ field trials, the improvement experienced was three times greater life (increasing from approximately 9.5 weeks to around 28.5 weeks).

Reducing the need for making a packing changeout from an average of six times per year to fewer than twice: ***That's a powerful selling message!***

Armed with these field test results, it becomes very easy to show how GORE® GFO® Packing can enable customers to save money while improving their plant efficiency and safety – along with reducing maintenance activities.



We're confident it will be a strong educational and sales tool for you.

If you haven't yet seen our new GORE® GFO® Packing booklet, please email sealants@wlgore.com to request a copy. 🔄

▶ Key Benefits

- Long-lasting packing ... saves money and labor
- Easy to install and remove
- Reduces inventory levels by consolidating packing needs
- Minimizes downtime from repacking pumps or resurfacing shafts

◀ [Back to top](#)

INDUSTRY SPOTLIGHT: Pulp & Paper Mills

Gore sealing products play a big role in keeping these “big behemoths” running smoothly and efficiently.

Pulp and paper mills have been an important part of the manufacturing scene for decades – and they continue to play a big role in industry today.

In fact, Global Industry Analysts predicts that the worldwide market for pulp and paper chemicals will exceed \$20 billion by 2015. Strong growth is likely to emanate from:

- The expanded use of paper in the packaging and construction industry sectors
- An increasing focus on specialty chemicals

GORE® Sealant Products are a key component of optimizing pulp/paper



plant efficiencies. Our products are used in three key processing areas:

- Digesting
- Washing and bleaching
- Chemical recovery (*recovery boilers*)

Applications for Digesters

The predominant chemical pulping system used in North America is the Kraft system, which utilizes two main chemicals: sodium hydroxide

Continued

▶ GORE TO THE RESCUE



A Gore distributor received an emergency call from a customer asking for help in selecting the most appropriate gasket material to use on a Kamyrtop separator — a critical piece of machinery in the mill. This was a “rush” situation as the equipment was not operating and the mill was ready for an immediate start-up.

The partner recommended GORE® Series 300 Gasket Tape and put Gore’s engineering team in touch with the customer to provide information and guidance for successfully installing the material.

Based on the flange in question, Gore’s team provided the proper torque specifications and guidance on how to apply the tape. Despite the request for support coming in “after hours,” the assistance was provided immediately, resulting in a quick install and successful startup.

Following the successful installation, the customer wrote to Gore, “Thank you for your assistance yesterday! I was pleasantly surprised with the rapid response ... Everything worked out great, pressure-tested with zero leakage. Your expertise was very helpful. Thanks again for going back to the office to help us here.” 🔄

- **Application:** Kamyrtop separator
- **Pressure:** 14000 KPA / 200 PSI
- **Temperature:** 180°C / 350°F
- **Former Gasket Material:** Filled PTFE
- **Gore Product:** GORE® Series 300 Gasket Tape (2 strips of 1-1/2" x 1/8" side-by-side, creating a 3" gasket width)

◀ [Back to top](#)

100% GORE® GFO® PACKING:


Small Investment ... Big Payoff

A large pulp and paper mill in South America was experiencing an alarming problem with its batch process digesters. The packing it was using was lasting just ten days (or sometimes even fewer) before it was failing and needed to be replaced.

The constant need for removing and reinstalling the packing was costing significant money as well as additional labor and inconvenience.

Responding to the plant's need, 100% GORE® GFO® fiber was substituted. The performance improvement was immediate and dramatic. In fact, the new packing didn't need replacing even after five months!

In addition to labor savings and the ability to keep its digester operations continuously running, the plant is saving an estimated \$7,000 due to the extension of the useful life of the bearing and the elimination of the black liquor that was once a problem.

Now, *that's* a big payoff for only a small investment! 



and sodium sulfide. The Kraft pulping process is a closed-loop system, wherein most chemicals are recovered and refurbished to allow only low emissions to the environment.

Chemicals are used in either batch digesters or the more modern continuous digesters (cooking vessels). The pulping and cooking segments of the mill present many situations where GORE® Sealant Products are the ideal sealing solution. Here are some of the most significant:

GORE® GR Sheet Gaskets and GORE® Universal Pipe Gaskets (Style 800)

- These products can be used throughout the entire process area.
- They are particularly effective for Kraft or chemical cooking processes.
- For mills that have non-metallic piping, the Style 800 product is particularly appropriate for standardization on one sealing solution for pulping and liquor lines.

GORE® Joint Sealant and GORE® Series 500 Gasket Tape

- These form-in-place products can be used throughout this area of the mill.
- GORE® Joint Sealant: Manways, handholes.
- GORE® Series 500 Gasket Tape: Steaming vessels, Kamyrtop separators, liquor heaters, low and high pressure feeders.

GORE® GFO® Packing

- Ideally suited for use in Kamyrtop (Ahlstrom) digesters.
- Applications include the inlet device, outlet device, plus high and low pressure feeders.
- A low water-consumption packing is desirable for all packed pumps in the area. GORE® GFO® Packing coupled with an anti-extrusion device or bushing ring will allow for reducing the water consumption during the break-in period following packing installation.

Applications for Washing/Bleaching

After leaving the digester, unbleached pulp goes through a series of washing and screening stages to remove liquor, sand, dirt and other matter to prepare the pulp for its end use.

The so-called C-E-H-D bleaching sequence is quite involved. The chlorine dioxide stage is the ultimate and most important stage, when the final degree of whiteness is calibrated in the final product.

An important factor in the bleaching operation is the use of chlorine dioxide, which can be dangerously unstable and can cause an explosion even

when diluted with air. There are various ways to deal with this risk, including using counteracting substances such as sodium chlorate or switching to a totally chlorine-free process.

Where do Gore products fit in with the washing and bleaching processes? Here are a few popular applications:

GORE® Universal Pipe Gaskets (Style 800)

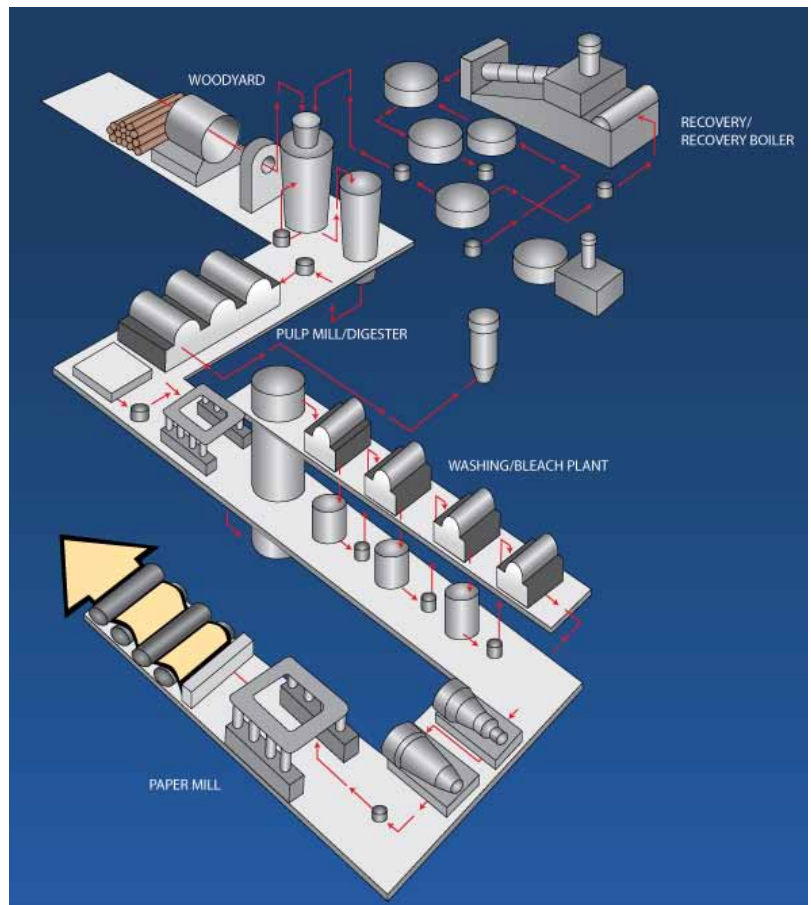
- For process piping in the pulp line, liquor line and bleach plant transfer

GORE® Joint Sealant

- For less critical equipment flange applications such as manways, handholes and tank lids

GORE® Series 500 Gasket Tape

- For critical equipment flange applications like brown stock washers



Applications for Recovery Boilers

The chemical recovery stage (also known as “causticizing”) refers to the entire process that takes place after solids (black liquor) are separated from the cooked pulp. Because chemicals can be recovered, the liquor is concentrated in an evaporator set, a concentrator and a crystallizer.

Inorganic pulping chemicals are recovered by burning off the organic matter left in the liquor. Naturally, GORE® Sealant Products are not used in this process because of the very high burn temperatures and pressures. (Instead, metals like spiral-wound gaskets or graphitic type technologies are used.)

But there are other steps within the chemical recovery phase that are highly suited for Gore products, such as:

GORE® GR Sheet Gasketing and GORE® Universal Pipe Gasket (Style 800)

- Process piping

GORE® Joint Sealant

- Applications include manways, handholds and storage tank lids

GORE® Series 500 Gasket Tape

- Equipment flanges, evaporator dome lids



Continued

[◀ Back to top](#)




Key applications for GORE® GFO® Packing during the causticizing stage include clarifiers, dregs washing and cleaning, and white liquor storage.

Beyond these applications, GORE® GFO® Packing is highly suited for the final causticizing phase. This occurs after the sodium compounds have been segregated by a process in the recovery boiler when they will be converted

back into sodium hydroxide, which is the primary ingredient in “white liquor.”

The revitalized white liquor cycles back to the digester area to be used to process more pulp, while the remaining inorganic chemicals are sent to a smelt tank — and from there to a settling tank where additional processing steps enable additional conversion from “black liquor” to “green liquor” and ultimately to “white liquor.”

The successful application of GORE® Sealant products has made our brand one of the most respected among maintenance managers in the pulp and paper field. For more details and explanation of how GORE® Sealant Products are the right choice within selected pulp and paper processes, please contact your local field sales representative. 

For Smooth Lime Kiln Operations, GORE® GFO® Packing Quality is “Baked Right In”

Roller lime kilns present particular challenges for cellulose pulp and paper mills. Most braided packing materials simply can’t cut it when it comes to excellent sealability.

A cellulose facility in the U.S. was facing particular difficulties using its existing packing on its lime kiln rollers. One visit from Gore’s technical specialists, and it wasn’t hard to figure out why.

The packing material the plant was using wasn’t able to stand up to the temperature and speed demands. The product also had more rigidity


and caused greater abrasion.

A quick comparison with 100% GORE® GFO® Packing revealed that the fiber in the existing packing was immersed in graphite externally instead of being incorporated into the ePTFE matrix, which is one of the unique benefits of packing made out of 100% GORE® GFO® fiber.

Not only was the mill getting unacceptably short life out of its packing, the packing required more complex installation procedures, making it doubly troubling for the maintenance staff. Compared to



such inferior performance, it was easy to demonstrate the dramatic improvement that the 100% GORE® GFO® Packing would deliver.

... *And deliver it did!* Once installed, our packing worked flawlessly for over six months. It’s yet another example of how pulp and paper mills can “pack it and forget it” with 100% GORE® GFO® Packing. 

[◀ Back to top](#)



Fluid Sealing Training ... Coming in 2013!

We're pleased to report that we'll be holding training events for distributor personnel in 2013, which will be held at the Gore Sealant Technologies facility in Elkton, MD.

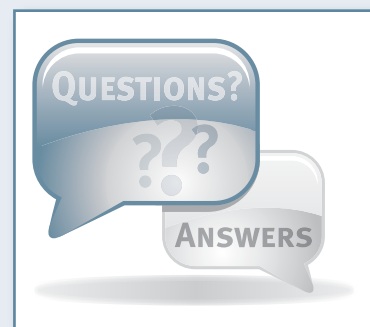
As part of the training seminar, attendees will be introduced to a full range of valuable educational and information subjects including:

- Explanation of the flange sealing system and flange system dynamics
- Sealing "best practices," including bolt torque demonstration
- Overview of the GORE® Sealant Technologies portfolio of products and their applications
- Understanding industries and markets
- Product positioning and market coverage: Which product works best where?
- Techniques for effective selling

We'll be setting training dates early in the year, so stay tuned for details!

To learn more about the training curriculum, contact Tom Coons at

410-506-7578 or tcoons@wlgore.com. 



From the Inside Sales Desk

Please note that our offices will be closed on these upcoming holidays:

- Monday-Tuesday, December 24-25 – Christmas
- Tuesday, January 1, 2013 – New Year's
- Friday, March 29, 2013 – Good Friday

QUESTIONS?

Feel free to contact Inside Sales at **800-455-2791** between 8 a.m. and 5 p.m., Eastern Time.

[< Back to top](#)



W. L. Gore & Associates, Inc.

Sealant Technologies

P.O. Box 1488, Elkton, MD 21922 USA

www.gore.com/sealants

GFO, GORE and designs are registered trademarks of W. L. Gore & Associates.
©2012 W. L. Gore & Associates, Inc. All rights reserved.