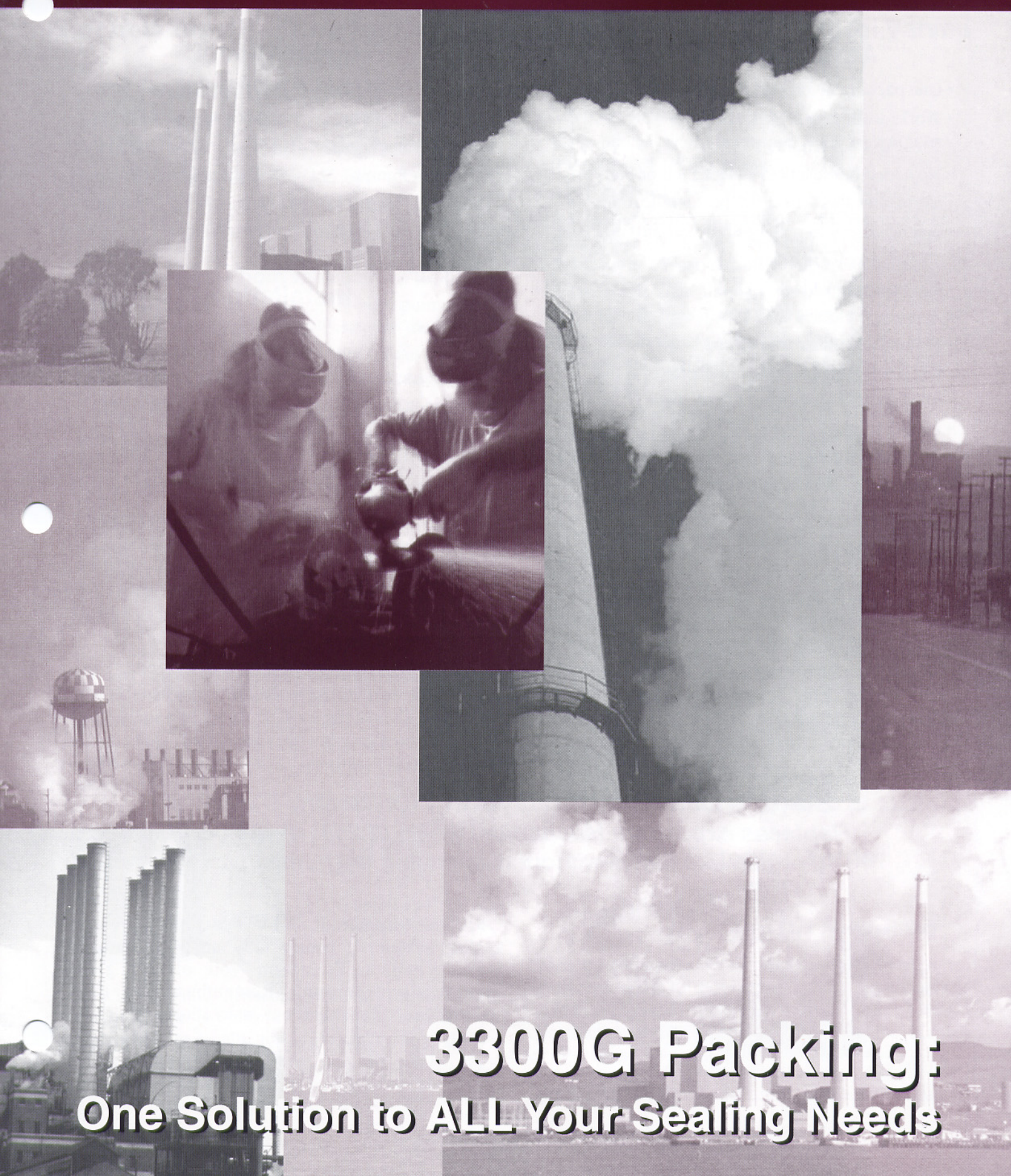


SLADE

POWER PLANT Packing



3300G Packing:
One Solution to ALL Your Sealing Needs



Pump Applications

For Steam, Nuclear and Hydro-Electric Plants

Advantages of 3300G

- One packing inventory for all pumps and valves
- Works well on worn sleeves
- Difficult to overtighten
- No added lubricants to squeeze out or burn off
- Eliminates flush-water in most applications
- Not necessary to replace entire set, just add ring
- Doesn't glaze or harden
- Eliminates most leaks
- Amperage reduction of 15% is typical
- No special end-rings required
- Outlasts typical packings by factor of 6
- 4800 fpm/24 ms (without flush water)
- pH 1-14
- Operates virtually leak-free in most applications
- Nuclear Grade available (ask for 3300GLC)

Applications

- Boiler Feed Water
- Condensate Pumps
- River Water Intake
- Vacuum Pumps
- Fly-Ash Pumps
- Auxiliary Feed-Water
- Boiler Recirculation
- Service Water Pumps
- Heater Drain Pumps
- Clinker Grinders
- Lime Slurry Pumps
- Fire Pumps

Installation

- Check clearances and dimensions
- Best to use no more than 5 rings in stuffing box (use *Slade* spacer bushings to reduce rings)
- Cut rings on the bias (45° angle), stagger joints
- Compress each ring 25% (especially the first ring)
- Loosen gland to allow it to relax
- Snug the gland bolts and start the pump

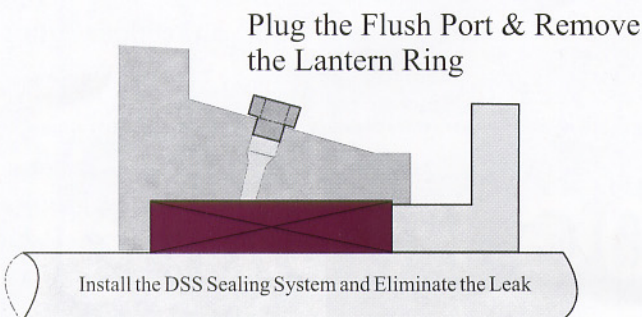


THE SLADE PATENTED GRAPHITE YARN

Slade manufactures all of its own patented graphite yarns. The advantage is that each individual strand has its own unique core made of high tensile carbon fiber. The yarns are protected by US & EU patents. They were developed to conduct heat like a steel alloy, to transfer the heat away from the shaft.

When you compress by 25% (the denser the better), you have die-formed it into the stuffing box. This forms a "heat sink" in the stuffing box. So you don't need flush-water to cool the shaft sleeve, in most applications. In addition, SLADE reduces the number of oxidation sites in the packing yarns, so you can use 3300G in more severe temperature and severe chemical applications than other packings.

Slade's DSS Sealing System (Dry Sealing System) Replaces expensive Mechanical Seals at 25% of the cost Split to install without dismantling the pump



For best leak-free, flush-free service, use the *DSS* sealing system. It comes fully unitized, ready to install, and we'll inform you of the gland compression required. Remember, you can't overtighten if you follow our instructions.

With the *SLADE DSS* sealing system you can achieve Mechanical Seal performance at the cost of packing, and expect longer life!

SLADE 3300G for VALVES

Excellent for ALL Power Plant Applications

Steam Valves • Superheated Steam Valves • Turbine Control Valves

SERVICE LIMITS

Temp: 1,800°F/1,000°C
Chemical: 1-14 pH (virtually all applications!)
Pressure: Up to 5,000 PSI/345 Bar
(higher pressures use Enviro-Foil™
Bushings as end-rings)

One Packing for both Valves and Pumps!

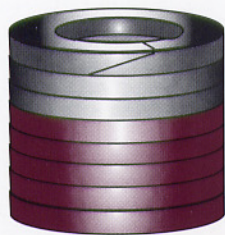
Slade 3300G is the best packing for both pumps and valves—eliminating the risk of installing the wrong packing and reducing inventories.

Enviro-Foil™ Bushings a Permanent Solution to Deep Stuffing Boxes

Enviro-Foil™ spacer bushings replace carbon bushings. Slade's patented technology for metallic foil inserted braiding yarns eliminates the machined carbon bushings used as spacers in stuffing boxes.

EPRI (Electrical Power Research Institute) has proven that using more than five rings of packing reduces the sealing capability of all valve packings. Machined carbon bushings are used to act as space fillers to improve valve-sealing performance.

Slade has developed a simpler spacer system that is more user friendly. Enviro-Foil™ Spacer Bushings are much simpler, less costly and more user friendly. No machining required!



3300G

Enviro-Foil™



Enviro-Foil™ Yarns
Metal Foil Reinforced

Install Enviro-Foil™ permanent bushings first, followed by only three to five rings of 3300G. Enviro-Foil™'s unique yarns are metallic foil strips totally encapsulated in high quality graphite. These yarns are braided and super-compressed in dies to fit your stuffing box. They are a permanent solution to deep stuffing boxes.

FEATURES

- Lifetime Replacement Warranty
- Each braided yarn reinforced with carbon fiber (600,000 PSI tensile strength)
- API Fire Tested (607 and 589 at 1,800°F/1,000°C)
- No special end-rings required. Carbon-corners on each ring of 3300G provide excellent Anti-Extrusion and Wiper Action. Good to 5,000 PSI.
- 3300G coats stem forming composite microfinish, resulting in low coefficient of friction.
- 30% compression of spooled 3300G "die-forms into the stuffing box." Eliminates need for die-formed rings.
- Reduces inventory and cost:
 - a. By eliminating die-formed rings for each valve
 - b. By having a few standard sizes for all valves
 - c. Same packing for both pumps and valves
 - d. If a leak develops, just add a ring
- Extremely high operating temperatures (typically: 1,800°F/1000°C). Excellent for "super-heated steam."
- "Live-loading" not required (no weight loss at temperatures up to 1,000°F)
- Highly polished surfaces are not required (finishes between 8 to 30 RMS are fine)
- Handles media within full 1-14 pH
- No lubricants, grease or impregnants that can be squeezed, washed or cooked out.
- No wire reinforcement that could damage stem

Slade Patented Yarns



3300G Carbon Fiber Reinforced Yarn

Slade manufactures its own unique patented yarns. They are able to take extreme temperatures and oxidizing conditions because their physical construction reduces the magnitude of the number of sites in which oxidation takes place.

Slade 3300G™

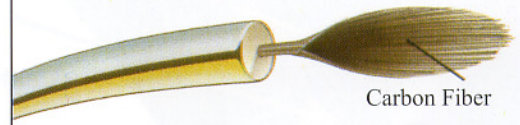
the "Mechanical Seal on a Spool"™

Eliminate Seal Water Stop Most Leakage.



Made In USA
Patented Technology

High Tensile Strength



Carbon Fiber

Carbon Fiber Reinforced Graphite Foil Yarn

An annual savings of \$13,140 per rotating shaft*

**Assumes 5 gallons per minute of water at \$.005 cost per gallon*

Pulp and Paper Mills, Nuclear, Fossil and Hydroelectric Power Plants, Waste Water Treatment Plants

- Virtually no leakage in most applications
- No flush water required in most cases
- Reduced amperage typical
- 4800 fpm (1400 m/min)
- Outlasts packings 6 to 1
- Virtually no shaft wear
- Excellent in reciprocating pumps!
- pH 0-14, except strong oxidizers
- Seals abrasive slurries
- Reduces labor costs by 83%
- Water savings (per shaft): 2.6 million gallons per year (@5gpm).

SLADE

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VOC Emission Valve Packing

96% of valves packed with Slade have ZERO emissions

- Over 99% of valves have had less than 100 ppm emissions and required NO adjustments in a five year period.
- Outstanding performance under API 589 and 607 Fire Test specifications (API Testing performed by Southwest Research Institute).
- Two independent tests (PERF standards) by Major Oil Company show emission control 3.9 and 6.4 times better than (1/5 stac) die formed rings of flexible graphite foil.
- Slade manufactures its own patented graphite foil yarns to achieve these standards.

Fugitive Emission Control

3300C – Slade’s Cost-Effective Pump and Packing

Reinforcement: Each individual strand of graphite foil is reinforced with high strength structural carbon fiber and no other reinforcements
Temp: -400°F/-240°C to 1800°F/1000°C
Pressures: Valves to 1,000 psi/70 bar (for higher pressures, consult factory)
pH range: 0-14, except in strong oxidizers
3300W: Inconel wire reinforced for higher pressures: 5,000 psi/350 bar
3300LC: Low chloride, high purity version for nuclear plants

3300G – Slade’s Best All Purpose Pump and Valve Packing

Reinforcement: Corners and each individual strand of graphite foil are reinforced with high strength structural carbon fiber, no other reinforcements
Temp: -400°F/-240°C to 1800°F/1000°C
Pressures: 5,000 psi/350 bar without end rings (compress 28%)
Pumps: Flush-free in many applications to +4,800 fpm (1,400m/min)
pH range: 0-14, except in strong oxidizers
Application: Chemicals, steam, hydrocarbons, etc.
3300GLC: Low chloride version for nuclear power plants

3300K – Slade’s Best Triplex Pump, Reciprocating Packing

Reinforcement: Same as 3300C except Kevlar fiber corners
Temp: Maximum temperature 500°F/260°C
Application: Reciprocating/plunger, wastewater, steam and ammonia pumps; oilwell sucker rods, etc.
Pressures: 5,000 psi/350 bar
pH range: 2-12

3300CJ – Slade’s Anti-Extrusion Carbon Fiber Packing

Description: Carbon fiber jacketed 3300C
Pressures: Valves to 5,000 psi/351 bar; 1200°F/350°C
Application: Used as an anti-extrusion end ring
PH Range: 0 - 14, except in strong oxidizers

3300CJK – Slade’s Abrasive Isolator Packing

Description: 3300CJ with Kevlar corners, used as an anti-extrusion ring (for large throat clearances) and to protect against particulate contamination. Usually only one ring is installed (first ring in) at the bottom of the stuffing box.
Temp: 500°F/260°C
PH Range: 2 - 12



FIRE SAFE



EMISSION SAFE