

# Tom-Pac®

**The Replacement for Braided Packing and Mechanical Seals**



**The Ideal Seal is Tom-Pac® Sealing Compound.**

- **Zero leakage**
- **No cooling water**
- **On-Line maintenance**
- **Easy to install**

Since 1977  
Over  
**20**  
YEARS OF  
EXCELLENCE  
Tom-Pac Inc.

TOM-PAC Inc., Montreal, Qc, Canada, H4T 1V6 - [www.tom-pac.com](http://www.tom-pac.com)

**TP-4000**

Tom-Pac® TP-4000 ARAGRAPHE® Fiber Mechanical Sealing Compound is a fibrous, flexible compound that evenly surrounds the shaft and acts as a lubricated plug eliminating pressure points. TP-4000 is **self-lubricating** and self-cooling: lantern rings and flush systems are never needed. TP-4000 operates at **ZERO LEAKAGE**.

TP-4000 ensures minimal friction for negligible sleeve wear and significant **energy savings** in pumps, agitators and other rotating or reciprocating equipment. Unlike mechanical seals that can be expensive, complex and delicate to handle, TP-4000 is simple and reliable. The only maintenance required is small additions to the existing compound, a simple procedure performed **ON-LINE** without having to shut down the equipment. TP-4000 reduces downtime and minimizes inventory.

**TP-5400**

TP-5400 is a “Food Quality” Sealing Compound approved by the **USDA**. It offers the same advantages as TP-4000 and is especially suited for fine paper installations as well as food.

**TP-4800**

TP-4800 Black Maxx is a **Full Spectrum Sealing Compound** with a pH range of 0-14 for total chemical resistance. TP-4800 is ideal for chemicals and pulp mill black liquor.

**SUMMARY of BENEFITS**

**WATER SAVINGS:** No flush or seal water required

**SLEEVES:** Tom-Pac® is a non-compression compound, thus significantly reducing wear on sleeves

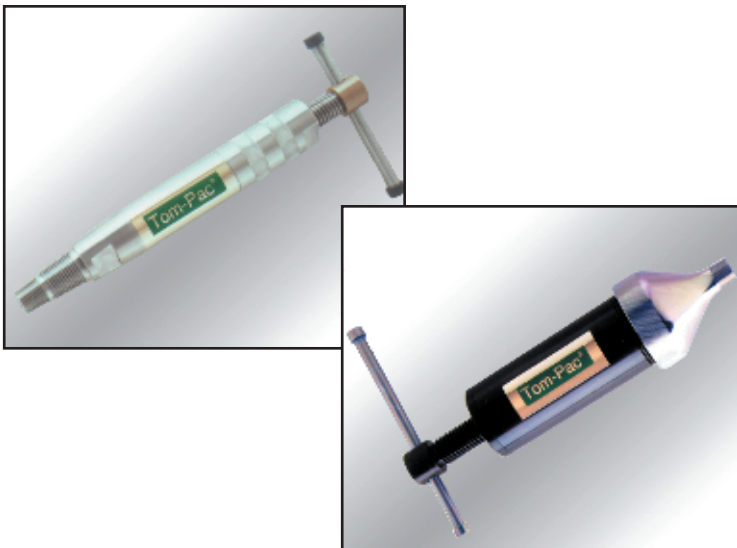
**ELECTRICITY:** Savings of approximately 8% due to less compression against the shaft

**DOWNTIME:** Eliminated, Compound can be injected while machinery is on-line

**INVENTORY:** One size standardizes inventory

**Tom-Pac® Exclusive On-Line Injection System**

Tom-Pac® Sealing Compounds are injectable **ON-LINE** for no downtime maintenance.

**TP-8100 & TP-8200**

The **TP-8100** or **TP-8200** Linear Loaders™ can “reseal” the stuffing box while the machinery is in operation by injecting sealing compound with a quick turn of the handle.

- Direct Injection
- “Reseal” pumps in 10 seconds
- Never adjust gland follower again
- Minimize downtime



## RECOMMENDED MAXIMUM TOLERANCES FOR PUMPS AND DYNAMIC APPLICATIONS

### **TP-4000**

3600 rpm  
pH 2-12  
-40°F to +600°F  
-40°C to +315°C

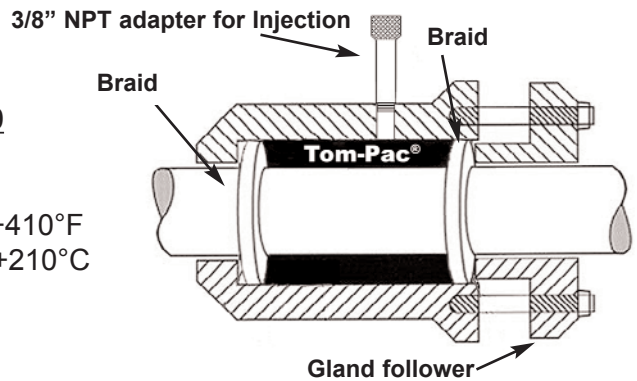
### **TP-5400**

3000 rpm  
pH 1-13  
+5°F to +500°F  
-10°C to +260°C

### **TP-4800**

2400 rpm  
pH 0-14  
-40°F to +410°F  
-40°C to +210°C

200 psi stuffing box pressure ( 15 bar )

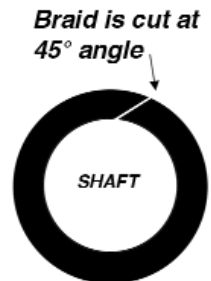


## INSTALLATION PROCEDURE

1. A good installation starts with equipment in good mechanical condition. Bearings, sleeve, stuffing box, follower, etc.
2. Ensure that the installation is within Tom-Pac's tolerances.
3. Measure shaft deflection with a dial indicator. Optimum Total Indicator Reading is .003" (0,075 mm)
4. Disconnect water cooling line leading to lantern ring, if any.
5. Remove all old packing and lantern ring from stuffing box. Note: Do not remove lantern ring if it is installed at the front of the stuffing box (wet end) forming part of the throat bushing.
6. Clean shaft of any debris and flush stuffing box.
7. Check that the flush water port, which will now be used as the injection port for Tom-Pac® compound, is approximately in the center of the stuffing box, with a 3/8" NPT opening straight to the shaft, with no restriction or reduction. If needed, re-drill with a 9/16" bit right to the shaft and tap 3/8" NPT.
8. Install a new ring of quality graphite braided packing at the wet end of the stuffing box (Contact Tom-Pac for braid type recommendations). Ensure that the braid is cut at a 45° angle and properly seated in the stuffing box.
9. Fill stuffing box with TP-4000 or TP-5400. Compact by hand using gland follower to compress and remove air pockets.
10. Install a second new ring of braid at the dry end of the stuffing box. Install follower, ensuring that it enters the stuffing box at least 1/8". Tighten nuts **moderately** just to secure the follower. **Do not overtighten**. Install double nuts.
11. Load and install Linear Loader™ according to instructions. (use TP-8100 only for injection of TP-4800)
12. Start equipment and adjust to zero leakage, if necessary, by injecting additional compound via the Linear Loader™.
13. Install equipment maintenance tag.

### IMPORTANT FACTS TO REMEMBER DURING INSTALLATION!

- Always cut braid end rings at 45° angle!
- Initial Installation is always done by hand, not by injection!
- If a pipe is used to connect Injector to stuffing box port, Always pre-fill the pipe before connecting!
- Never try to inject compound through pipe elbows of more than 45° angle!
- Never use reducers if pipes are installed. Injection port must be 3/8" NPT all the way into the stuffing box.



## SEAL VALVES THE FIRST TIME FOR THE LAST TIME!

**Every valve sealed with Tom-Pac® is one less to worry about**

**Tom-Pac® Compounds** will not dry or harden. Valves are always easy to turn. standardizes inventory.

## RECOMMENDED MAXIMUM TOLERANCE FOR VALVES AND STATIC APPLICATIONS

### **TP-4000**

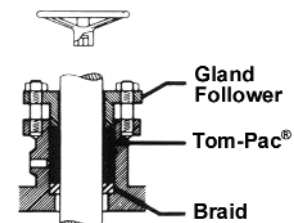
pH 2-12  
-40°F to +500°F  
-40°C to +260°C  
1050psi (75 bar)

### **TP-5400**

pH 1-13  
+5°F to +500°F  
-10°C to +260°C  
1000 psi (70 bar)

### **TP-4800**

pH 0-14  
-40°F to +450°F  
-40°C to +230°C  
1050 psi (75 bar)



1. Remove **ALL** old packing. (remove lantern ring, if any, and plug connection.) Clean valve stem.
  2. Place one new ring of braided valve packing at bottom of valve.
  3. Fill stuffing box with TP-4000 using a tamping tool to compact and remove any air pockets.
  4. Tighten gland follower nuts **firmly**. **VALVE IS NOW SEALED**
- Note: Quality graphite braided packing is recommended.

**Tom-Pac® Compounds are available in a convenient 6-Pac and 20 liter pails!**

## **Tom-Pac® : So Advanced, IT'S SIMPLE!**

**Tom-Pac®** formulas are specifically designed to standardize and simplify maintenance. Our focus is on basic cost effective alternatives to meet the needs of today's maintenance teams through advanced technology.

**Tom-Pac®** is sold worldwide and is stocked by local distributors for customer convenience.



## **UNLIMITED SHELF LIFE**

**Tom-Pac® Sealing Compounds** will keep indefinitely. No deterioration in sealing, lubricating or cooling effectiveness even if the container is left open.

# **SAVINGS AUDIT**

## **TOM-PAC WATER USAGE AUDIT**

**Scope:** To evaluate and document the cost savings (water and energy) using **Tom-Pac® Sealing Compound** versus conventional braided packing.

**Test Unit:** Refiner, Jones Double D

**Water:** 3/8" line x 100 psig = 42 gpm<sup>1</sup>

**Results:** GPM x MPH x HPD x DPY x 50%<sup>2</sup> = Gallons per year  
42 x 60 x 24 x 365 x 50%<sup>2</sup> = 11,000,000 GPY  
11,000,000 GPY x \$500/million gallons<sup>3</sup> = \$5,500.00

**Energy:**  $\frac{\text{GMP} \times \text{TDH}}{3960 \times \text{EFF}}$  or  $\frac{42 \times 231}{3960 \times .82} = 3\text{HP}$

3HP x \$500.00<sup>4</sup> = \$1,500.00 per year

**Summary:** Water cost + Energy Cost = Total Saving  
\$5,500.00 + \$1,500.00 = **\$7,000.00**

- 1 Usage estimated at 50% allowing for throttling effect on the discharge of the refiner (very conservative)
- 2 Per Cameron Hydraulic Data
- 3 Average cost for purchasing and treating 1 million gallons of water
- 4 Average cost for 1 horsepower of energy per year

**Safety Data:** Do not ingest. Gloves may be worn when handling.

**Notice:** All statements in this brochure pertaining to pressures, temperatures, speeds and other ratings are based on general service experience. Because of the wide variety of applications and wide range of equipment conditions encountered, together with the unpredictable human factors involved in the installation of this product by the ultimate user, TOM-PAC Inc. makes no warranties expressed or implied, that the product described is guaranteed for any length of time, for any measure of service, or for any specific purpose.

## **DISTRIBUTED BY:**

**Consult your local distributor for additional product and technical information**

## **TOM-PAC ENERGY AUDIT**

**Scope:** To evaluate and document the reduction in amp load and the corresponding electrical savings using **Tom-Pac® Sealing Compound** versus conventional braided packing.

**Test Unit:** First Filtrate Main Pump  
Goulds 3405L, split case pump  
460 volts, 150 HP, 1750 r.p.m. Service Factor. 1.0

**Amp readings:**  
Base line amps 168  
Follow up amps 160  
Differential 8

volts x amps x  $\sqrt{3}$  x Service factor x 24 hours ÷ 1000 =  
KWh/day x \$KWh = \$KWh/day x 365 day/year = \$KWh/year

- a) at \$.04 KWh  
460 x 8 x 1.73 x 1.0 x 24 ÷ 1000 = 152.7936 KWh/day x \$.04  
= \$6.11/day x 365 = **\$2,230.28**
- b) at \$.05 KWh  
460 x 8 x 1.73 x 1.0 x 24 ÷ 1000 = 152.7936 KWh/day x \$.05  
= \$7.64/day x 365 = **\$2,788.48**
- c) at \$.06 KWh  
460 x 8 x 1.73 x 1.0 x 24 ÷ 1000 = 152.7936 KWh/day x \$.06  
= \$9.16/day x 365 = **\$3,346.18**

All Figures based on 24 hours / day, 365 days/year