

CASE STUDY 4

CHAMPION INTERNATIONAL PULP & PAPER MILL PURAFIL®



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PURAFIL MONITORS CORROSION LEVELS 4 CHAMPION INTERNATIONAL PULP & PAPER MILL



PRODUCT APPLICATION AT CHAMPION INTERNATIONAL PULP & PAPER MILL

Champion International uses Purafil's OnGuard 2000 Monitor at their pulp and paper mill in Canton, North Carolina. The OnGuard provides continuous monitoring of environmental corrosion gases, essential in preventing unnecessary damage to control room equipment and identifying corrosion causing episodes. The OnGuard 2000's product benefits include: real-time corrosion measurements, correspondence to ISA Standard S-71.04-1985 for classification of environments and sensor service life of 4000 Angstroms.

THE PROBLEM

As part of an upgrade and expansion at Champion International pulp and paper mill, new fiber lines and Distributed Control Systems (DCS) were to be installed. The need to protect these sensitive electrical instruments from the damaging effects of corrosive hydrogen sulfide gas led Mike Keen, instrumentation engineer at Champion, to contact Purafil.

PURAFIL PROVIDES THE SOLUTION

To preserve the integrity of the new operating envelope, a decision was made by engineers at Canton, North Carolina to install OnGuard Atmospheric Corrosion Monitors and to tie them into Champion's DCS information highway. OnGuard's readings correlate directly to the standards set by the Instrument Society of America. Every 15 minutes, OnGuard updates the corrosion build-up over the previous 24-hour period and projects the corresponding ISA severity level.

In addition to a copper-plated quartz crystal microbalance (QCM) sensor, the OnGuard 2000 also has a silver-plated QCM. Purafil offers in order to obtain a more comprehensive assessment of those corrosive gases present in the environment.

OnGuard Monitors allowed Champion's maintenance team to be proactive in identifying and controlling sources of corrosion. OnGuard's powerful memory can log up to one full year's worth of comprehensive data, which helped the maintenance team in determining cause-and effect relationships. OnGuard readings can be easily uploaded to a personal computer for viewing or graphing.

Once installed, the OnGuard documented environmental changes in Champion's fiber line operator control room. The silver-plated quartz crystal microbalance (QCM) reading indicated an environmental change within the room (see table at left).

Keen's investigation led him to an operator smoking in the control room. The door had been left open to eliminate the level of smoke. Keen took immediate corrective action, instructing the operator to keep the door closed and smoke outside the room. Afterwards, the silver incremental reading immediately returned to a more normal level.

The ability to identify potential problems on a real-time basis significantly reduces computer downtime.

TABLE 1

CHAMPION INTL. #2 FLOOR, OPERATOR CONTROL ROOM

XT0978CC	Copper Corrosion	2.7871 Å/Day
XT0978CS	Silver Corrosion	14.2 Å/Day
XT0978CS	Humidity	46.1 %
XT0978CS	Temperature	72.66°F

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