



Wet & Dry Lay-Up

PROTECTIVE STORAGE ENVIRONMENTS FOR STEAM HEATING BOILERS

Proper Lay-Up Prevents Corrosion

Water and oxygen are the two reactants fundamental to corrosion. When boilers are blown out with compressed air and left exposed to the atmosphere, damp tube seams and moist drum scale remain, inviting corrosive processes to begin. In such cases, internal corrosion rates may be greater during the off-season than when the boiler is in-service.

Wet Lay-Up With Sulfite Removes Oxygen

The following method submerges the drum interior in oxygen-free water, which contains excess oxygen-scavenging sulfite. Continuous diffusion of the sulfite solution protects surfaces from corrosion for months, usually without the need for sampling, testing or further treatment.

If boiler is empty:

- Open drum vent and fill boiler to normal level with softened feed-water.
- Fire boiler and hold at a slow boil for 5 minutes to de-aerate water.
- Proceed with steps for full boiler.

If boiler is full:

- Retain boiler water; it is chemically-rich and should not be wasted.
- Add 1 unit dose of sodium sulfite for every 250 gallons of drum volume.
- Add 1 unit dose of dipotassium phosphate for every 1000 gallons of drum volume.
- Boil for 1 minute to circulate; turn off heat and slowly add feed-water until drum vent just overflows.
- Close drum vent and feed-water valves; leave steam stop valve open.
- Is drum pressure normal? If not, check fittings and valves for leaks.
- Drain water to normal level before returning boiler to service.

Dry Lay-Up With Continuous Air Stream Removes Water

The following method passes a continuous stream of ambient air through the boiler, drying the interior.

- Follow manufacturer's instructions to drain and clean boiler.
- Open all manways and handholes.
- Mount blower in manway furthest from steam lines; turn blower to lowest speed.
- Position blower so air stream passes entire length of interior before entering steam lines.
- Feel for air moving through handholes; if none is detected, turn blower to highest speed.
- Run blower continuously until just before returning boiler to service.

Dry Lay-Up With Volatile Corrosion Inhibitors Forms Protective Barrier

The following method exposes the drum interior to volatile corrosion inhibitors, which are solids designed to vaporize at ambient temperature and pressure. Continuous diffusion of the inhibitor vapor, adsorbed onto wet or dry metal, protects surfaces from corrosion for up to 2 years. Partially-used material may be dated and stored in sealed plastic bags for subsequent lay-ups.

- Follow manufacturer's instructions to drain and clean boiler.
- Use 1 pouch (size #15) of volatile corrosion inhibitor for every 100 gallons of drum volume.
- Place pouches anywhere in boiler (do not open pouches); close all boiler vents, valves and doors.
- Open only for maintenance or inspection; close afterwards to re-establish protective equilibrium.
- Remove pouches before returning boiler to service.