

ODA technology: water referred optimisation of heating and steam systems



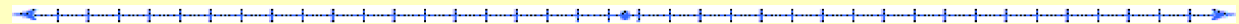
VANOR is specialist in industrial water treatment with associated chemical lab for water analysis. We offer a groundbreaking technical method for the optimisation of heating and steam systems.

The ODA technology is characterised by an excellent heat transfer in operation and a corrosion protection in downtime boilers. The inhibitor ODA is amine-based and protects the water phase and the steam/condensate chamber.

ODA conditioning is a successfully practised operation mode for closed and half-open circuits and pressure stages until 68 bar. We guarantee a special purity of steam and protection of turbine.



VANOR
Sustainable. Clean. Safe.



Please send us your inquiry for further information: +43-1/2533 033-8612 • E-mail: info@vanor.at

- ODACON inhibitor for optimisation of heating and steam systems
- Protection against corrosion; stabiliser for installations, boiler, heating
- Conservation of boilers
- Water analysis
- Sewage treatment

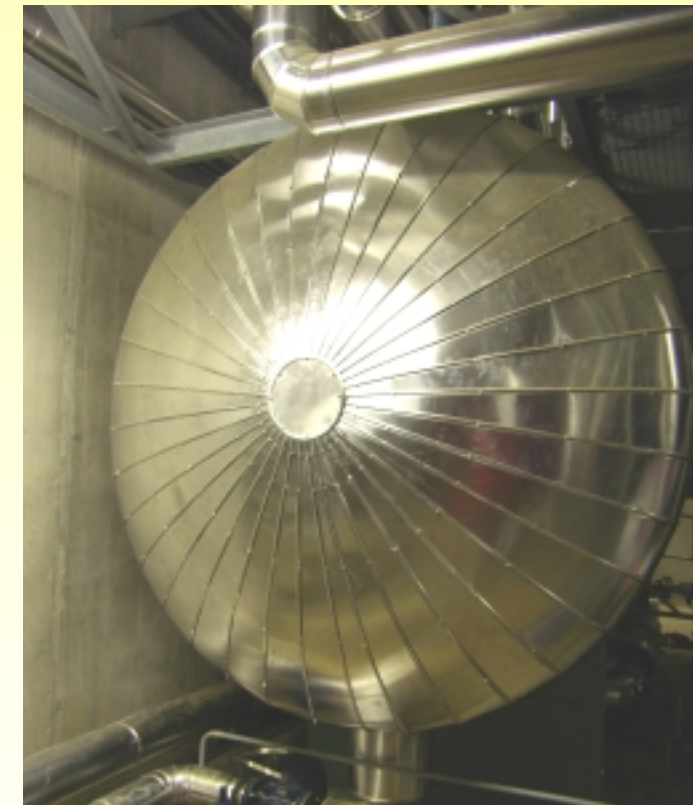
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Protection against down time corrosion



Effektive. Innovative.





Conservation of plants for boilers, components and pipes

We offer an approved method for protection against downtime corrosion for

- water-vapour circuits of large-scale power plants
- steam boilers
- hot-water generators and tanks
- heat grids
- heat exchanger
- pipes

Advantages– benefits:

Protection of whole water-steam circuit or components against downtime corrosion.

Lifetime extension of components and pipes of more than 50% compared to not conserved materials.

Protection effect both in empty and water-filled circuits over several months. Extra dosage is not necessary.

Time saving: conservation of plants can already start during the shut-down process.

Start up of plants can be done at short notice.

Deconservation before start up is not necessary.

Simplification of repair work during down time.

The process is effective from a temperature of 60°C.



Conserved pipe section, filled with water for 8 years



Conserved pipe section, protection effect after draining

Effects of ODA-process

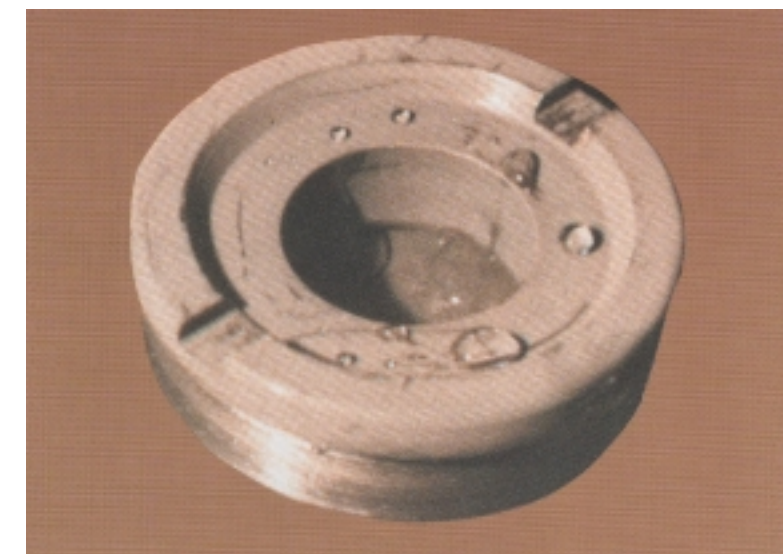
Adding Odacon (ODA) to the operating medium – feed water or circuit water –

during operation, shut down or down time

builds up a sealed protective surface on the metal surface.

The result is a diffusion inhibitor, which prevents the direct contact between material and the liquid containing corrosive substances.

The water- repellent qualities of the protected material can be seen immediately.



Water repellent surface as proof of successful conservation

The corrosion protective action of the surfactant is characterised by the electrochemical determined protection level.

Analysis of boiler pipes at the pressure level of 7800 kPa gave the following protection levels:

Protection level without conservation

50 ... 55%

Protection level with conservation

96 ... 99%

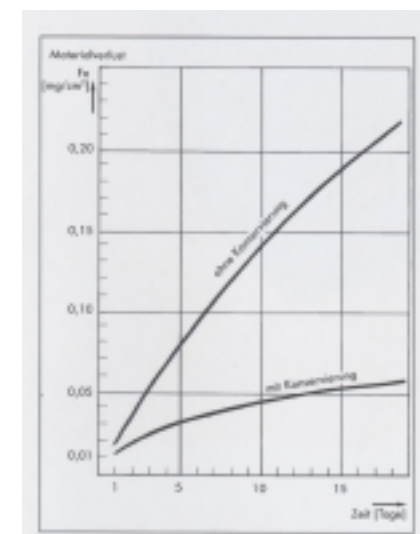


Damage of turbine without conservation

The conservation chemical Odacon is a non toxic product. In the operation medium, it is applied as an emulsion.

Dumping of the conservation solution is ecologically harmless.

The ODA-process is especially suitable for plants in down time for a longer period of time and for the period between production and start up.



Corrosion losses in boiler tubes during down time with and without conservation

Abstract references:

Biomass combined heat and power plant (CHP):

- CHP Oberpullendorf
- CHP Rechnitz
- CHP Siegendorf
- CHP Eisenstadt
- CHP Göpfritz
- CHP Alt-Weitra
- CHP Rastenfeld

We offer you:

- expert advice
- carrying out conservation
- conservation of boilers
- preparation of chemicals

For further information please visit www.vanor.at