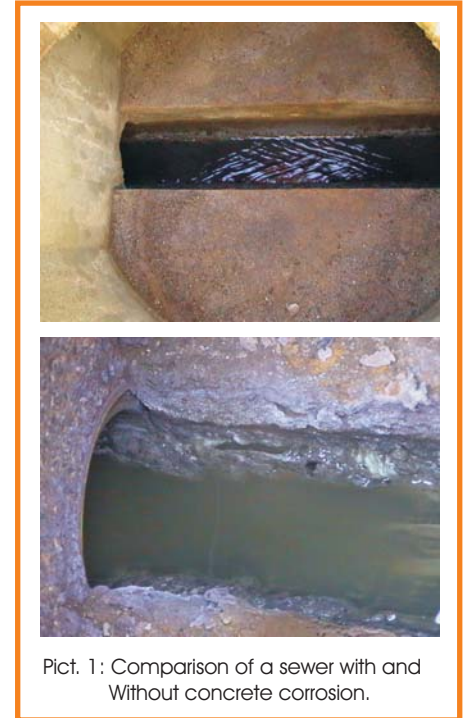


# The GoSil<sup>®</sup>-Procedure

## for prevention of corrosion and malodour in sewers

### The problem

Hydrogen sulphide is formed in waste water because of bacterial degradation of sulfurous compounds. This highly toxic and malodourant gas especially discharges from the waste water at pumping stations and at transitions from penstock into open sewers. It causes on the one hand bad smell or health risk and on the other hand the so-called biogenous sulphuric acid corrosion. Here the hydrogen sulphide at first is oxidised chemically to elemental sulphur in the presence of aerial oxygen at the sewer wall and further biologically to sulphate respectively sulphuric acid by micro-organisms. This sulphuric acid causes corrosion at concrete buildings and metal internals, e. g. in waste water pumping stations. The consequences are high sanitation costs which very often arise already after a few years.



### The solution

The hydrogen sulphide contained in waste water is bound chemically by well directed dosage of the reaction agents of the GoSil<sup>®</sup>-series. An outgassing which causes bad smell and corrosion problems is thereby definitely prevented.

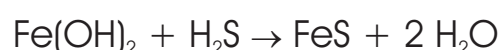
### The procedure

GoSil<sup>®</sup>-products are liquid reaction agents which contain ferric hydroxide as effective component. The ferric hydroxide is able to react with the hydrogen sulphide contained in the waste water by formation of elemental sulphur and hardly soluble ferric sulphide according to the following equations. Afterwards both reaction products exist in a finely divided form and are transported with the waste water to the sewage treatment plant.

1. Reduction of ferric (III) hydroxides by formation of elemental sulphur:



2. Bond of hydrogen sulphide as insoluble ferric sulphide:



## The GoSil<sup>®</sup>-Procedure

The dosage of GoSil<sup>®</sup>-products should be carried out at a turbulent flow, e. g. in waste water pumping stations for the intensive mixture of reaction agents. An intelligent control module based on microprocessors takes for the different influencing factors which lead to the formation of hydrogen sulphide into account and also guarantees a demand-oriented and economic dosage of GoSil<sup>®</sup>. With regard to storage and treatment of these safe substances which are categorised to be "not hazardous to waters" no special safety rules are to be considered. Thus the use can also occur at sensitive places such as traffic areas or water protection areas.

## The GoSil<sup>®</sup>-Dosage plant

The basic versions of the GoSil<sup>®</sup>-dosage plants consist of a metal container with a product tank (1.700 respectively 3.800 l useable volume), a dosing pump and the control module. An agitator has been installed for the homogenisation of the product.

The dosage of the GoSil<sup>®</sup>-products is normally simultaneous to the operation of the waste water pumps at a pumping station, so that an addition of the reaction agent proportional to the volume is guaranteed.

Concerning the financing of the GoSil<sup>®</sup>-dosage plants several possibilities, such as purchase, hire-purchase, hiring or leasing are available.



Picture 2: Dosage-plant Typ GoSil<sup>®</sup>-O-Mat 3800

## Overview of the advantages of the GoSil<sup>®</sup>-procedure

Reliable and approved procedure for the prevention of malodour and corrosion

• Economic and very safe operation

• Intelligent microprocessor controller

• Possible operation all-the-year

• Easy handling of GoSil<sup>®</sup>-products which are safe and "not hazardous to waters"

• No storage restrictions for the GoSil<sup>®</sup>-products

• Very economic usage of the GoSil<sup>®</sup>-products

• Positive effects on the subsequent operation at the sewage treatment plant

• Exclusive customer service and complete plant service



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