

# Cofra



membrane seals

# HDPE



Building worldwide on our strength



# HDPE *membrane seals*

Cofra BV specialises in the fabrication and application of plastic membranes. Cofra is the largest installer in the Netherlands on waste disposal sites and in the civil application of the KIWA-certified 2.0 mm HDPE membrane. Cofra was also the first contracting company to be certified for the of plastic membrane in accordance with the KIWA BRL K537. For more than 25 years our installation teams have stood ready to perform any task according to strict quality standards.

**VAM waste disposal site in Wijster, The Netherlands**



### **Membrane sealing – the technique**

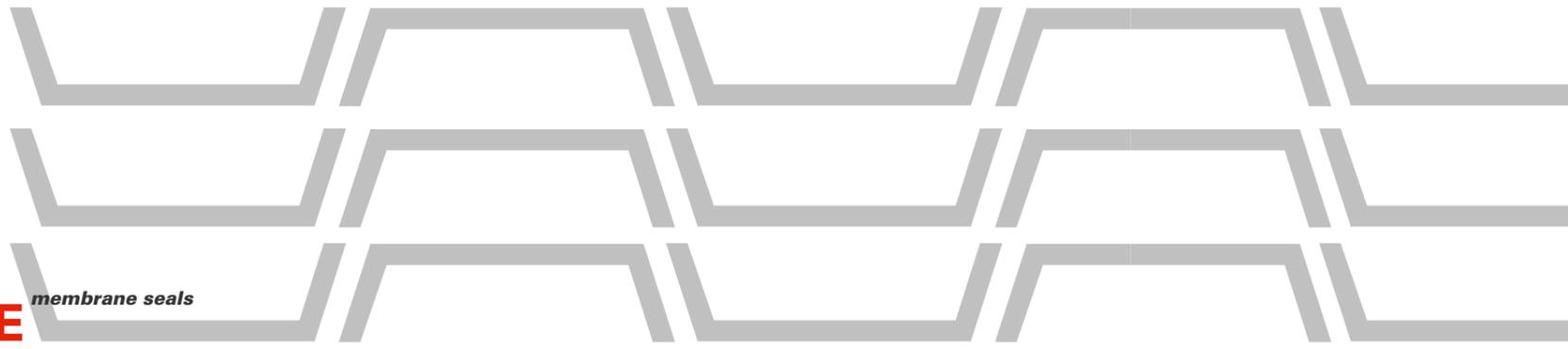
In HDPE seals, an area is sealed off against air and liquid using a membrane. At waste disposal sites, HDPE membrane is used for the installation of both bottom and top seals. In civil applications, bottom ash from waste incineration plant and contaminated soil is sealed off using HDPE membrane. Cofra can install the membrane both horizontally and on gradients. For vertical seals please refer to the Geolock® brochure.

### **Why HDPE?**

HDPE membrane is resistant to a large number of chemicals, including acids, salts, alkalis, alcohol, oils and hydrocarbons that occur in practice. The HDPE to be installed by Cofra complies with the requirements summarised in the BRL-K 538/01 “Beoordelingsrichtlijn afdichtingsfolies van hoge dichtheid polyethen (PE-HD) zonder versterking” (Assessment directive for sealing membranes made of high-density polyethylene without reinforcement). The HDPE is made of high-density polyethylene (HDPE) with a proportion of carbon black, anti-oxidants and stabilisers. This is the most commonly used membrane for the sealing of rubbish tips, dredging tips, lagoons and water reservoirs.



**HDPE** membrane seals



*Membrane on a mineral seal of Trisoplast at Gulbergen waste disposal site in Nuenen, The Netherlands*



*Membrane is being unrolled with the aid of a bearing-mounted spreader*

### **Installation of the HDPE system**

The membrane is unrolled with the aid of a “spreader”. This spreader is suspended from a hydraulic excavator. The membrane strips are laid with an overlap so that they can be welded together. Cofra uses two different welding methods. Automatic welding with a hot bolt or wedge welding machine or channel welding and manual welding with an extrusion welding machine. Automatic welding is used for making long weld seams between the membrane strips. Extrusion welding is used for seams that cannot be produced mechanically, such as details, repairs and lead-through constructions. All welding methods require a high level of expertise, both with regard to implementation and in terms of checking to guarantee optimal weld quality. Before the start of a job, both the competence of the technicians and the function and set-up of the welding machines are checked by doing test welds. These are checked daily in a mobile laboratory. The final checking of the welding comprises an inspection to determine the sealing of the weld. In the case of channel welds the welds are squeezed using air pressure. In the case of extrusion welds the welds are tested using a vacuum or flashing. Inspection is performed by an independent accredited inspection agency.

### **Applications of the HDPE technique include:**

- > Waste disposal sites, bottom sealing and final coverage
- > Waste incinerator embankments
- > Waterbasins
- > Soil protection

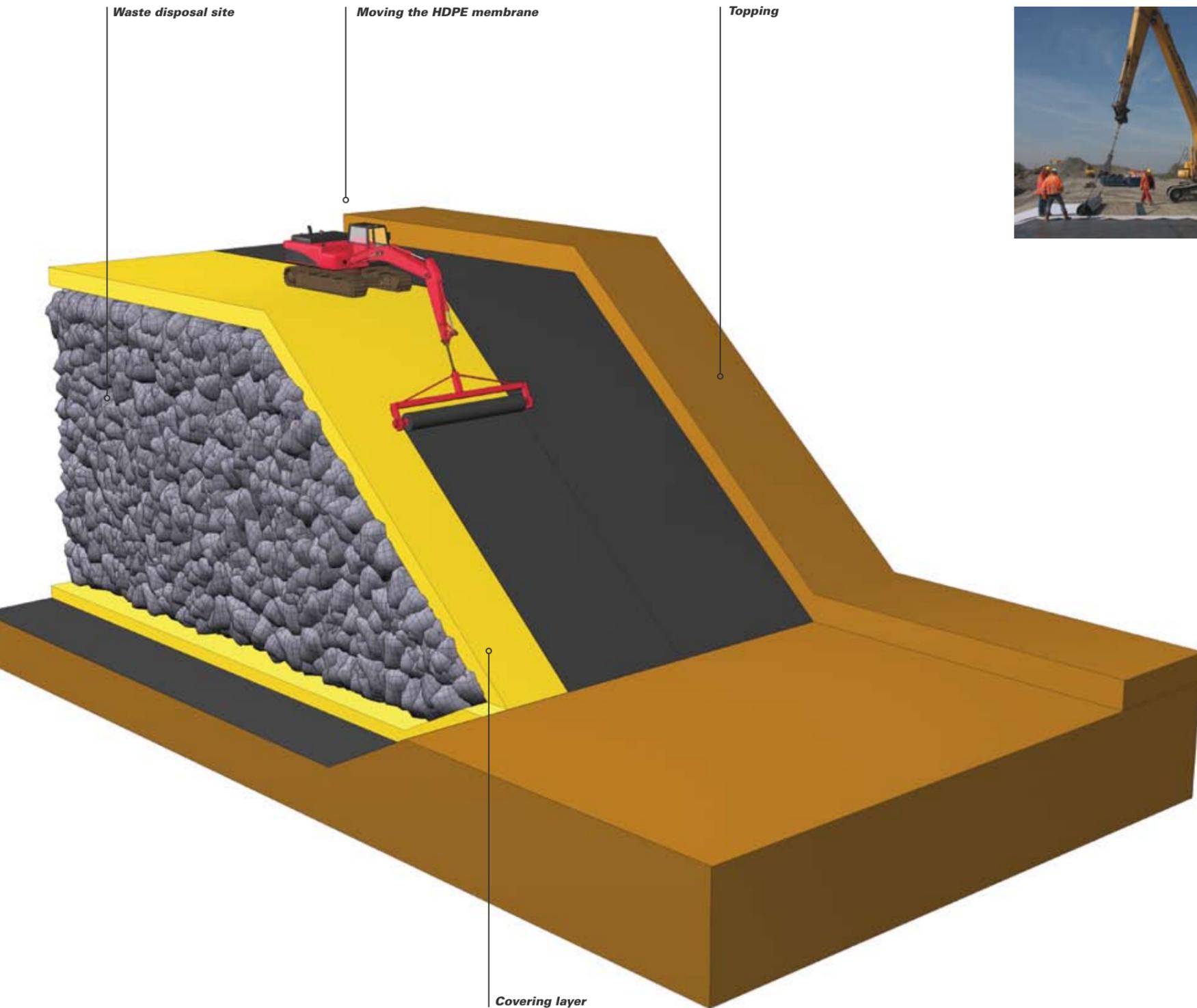
### **Advantages of Cofra as an HDPE installer and mover:**

- > High quality
- > 25 years' experience
- > Long service life
- > Resistant against chemicals
- > Large installation capacity



**HDPE**

folie afdichtingen



> Daily quality control of the work by means of mobile laboratory

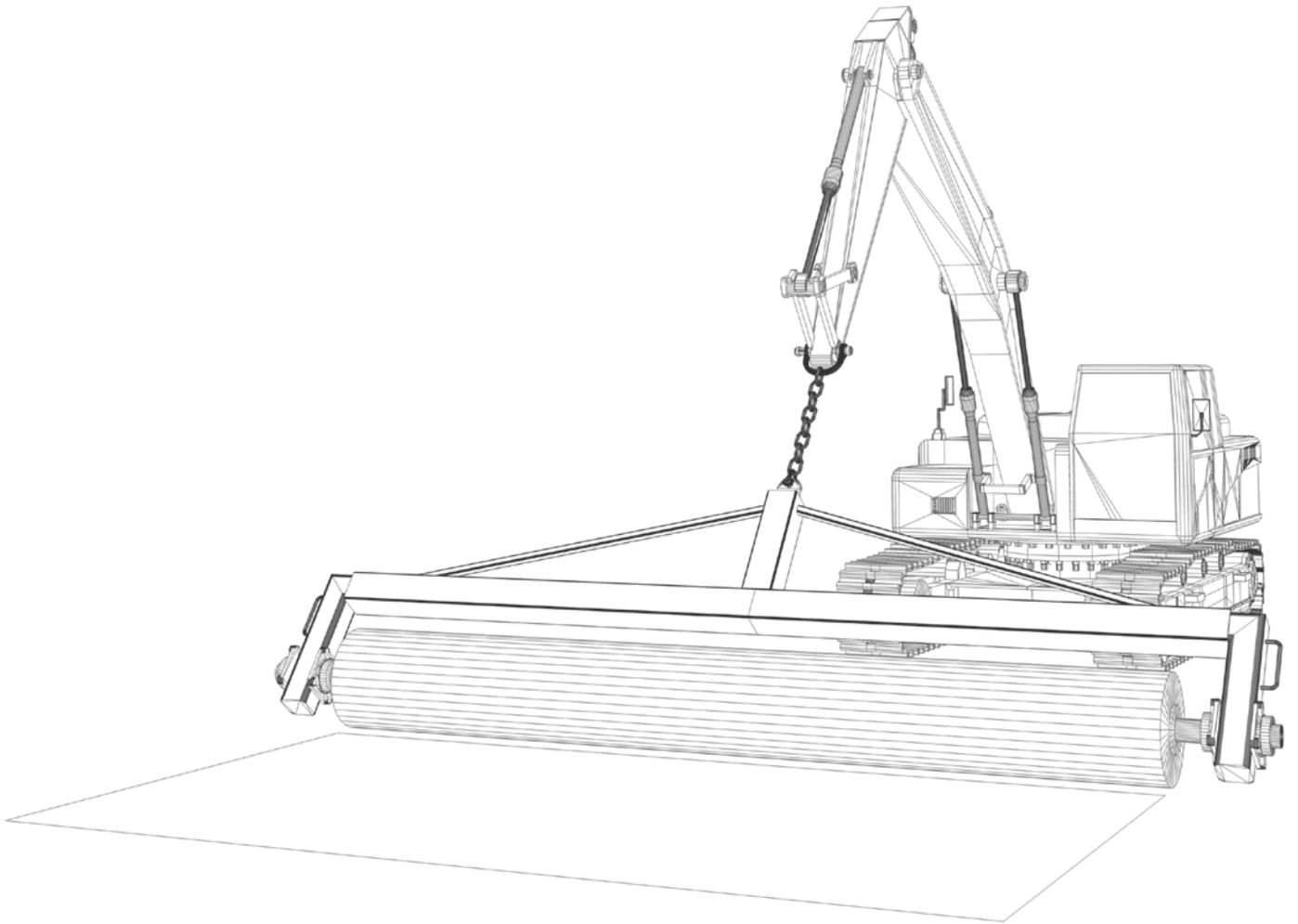
**Cofra**

Cofra B.V. is an innovative contractor specialising in ground improvement techniques and membrane construction. Quality is everything to us and thanks to our high level of experience and expertise we can provide the entire process from design to implementation all under one roof. Cofra, and, its sister company Geotechnics, is part of the internationally operating company Royal Boskalis Westminster. Cofra is active in specific sectors of civil engineering, ground improvement techniques and geotechnical hydraulic and gas barriers. Cofra is always working on the development of new ground improvement techniques.

**Other Cofra techniques:**

- > BeauDrain(-S)
- > HDPE seals
- > CDC
- > Vertical drainage
- > Geolock

You can find further information about the HDPE technique and other Cofra techniques on our website [www.cofra.com](http://www.cofra.com).



**Cofra**

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