



# The Plastics Experts.

Plastics in agriculture and livestock farming offer a durable, robust and cost-effective alternative to conventional construction materials. Plastic pipes can be used as water pipes or in ventilation technology. They are lightweight, robust, durable and resistant to chemical influences and UV radiation. Semi-finished plastic products offer a wide range of applications in sty and container construction or for the manufacture of exhaust air scrubbers. They are easy to process, durable and require very little maintenance. Plastic concrete protective liners are used to protect concrete surfaces in biogas plants. They are resistant to chemical media and easy to clean. Geomembranes ensure the professional and durable sealing of water and slurry tanks.

AGRU is a success story that has been going on for seven decades. Founded in 1948 by Alois Gruber Sr., the company is now one of the world's most important full-range suppliers of piping systems, semi-finished products, plastic concrete protective liners and geomembranes. Offering everything from a single source sets us apart from many others. We only process high-quality thermoplastics. And when it comes to solution expertise in material selection and installation, we are your best partner.

# Quality

Customer satisfaction is AGRU's top priority. Technical advice, seminars, welding training and professional instruction on the job site are the fundamental basis for this. AGRU operates a quality management system in accordance with ISO 9001:2015 and an environmental management system in accordance with ISO 14001:2015. This means that the products comply with international standards and are regularly monitored and evaluated by independent testing bodies. The comprehensive quality awareness ensures that the products meet the highest technical requirements and thus guarantee the safe transportation of aggressive and pure media.























# Plastic products for agricultural technology

### MADE FROM POLYETHYLENE AND POLYPROPYLENE

The cultivation of agricultural land and livestock farming require effective and durable solutions. AGRU supplies plastic products for many agricultural applications. From the irrigation of agricultural land to bio-acid and abrasion-resistant lining systems for sties and feed silos, a wide range of plastic solutions are available.

### FOR LIVESTOCK FARMING AND AGRICULTURE

## wide range of thermoplastics and products

AGRU products enable perfectly customized solutions

- Concrete protective liners for fermenters, silos and sties
- Geomembranes for manure and water ponds
- Semi-finished products for sties, tanks and air washers
- Piping systems for ventilation and irrigation
- Electrically conductive plastics for explosive zones

### **IMPROVED SAFETY AND HYGIENE**

# thanks to the special properties of polymers

Additional operational reliablility in agriculture thanks to

- smooth surfaces with good sliding properties
- high abrasion resistance
- easy cleaning and maintenance

### TIME AND COST SAVING

## easy-to-process and durable plastic solutions

Thermoplastic products instead of stainless steel

- Economical investment
- Easy installation
- Comparable or longer service life than stainless steel

## **LONG-LASTING RESISTANCE**

# against ammoniac and bio acids

Large investment intervals due to

- Impervious to faeces, microorganisms and fungi
- Resistance to frost for outdoor applications
- Chemical resistance to organic acids and alkalis





# Lining systems

### CONCRETE PROTECTIVE LINERS FOR FERMENTERS

Biogas is produced in biogas plants from organic, renewable raw materials in the absence of oxygen. Biogas is fed into the existing gas grid or converted into electricity. Fermenters are the heart of every biogas plant, where the organic waste is decomposed by microorganisms in an airtight and thermally insulated room to produce digester gas - consisting of methane and hydrogen sulphide.

Hydrogen sulphide is formed in aqueous solution, which attacks unprotected concrete and decomposes it in the long term. This is where AGRU Ultra-Grip concrete protective liners, with their high chemical resistance, offer effective and long-lasting protection against concrete corrosion. Green energy is generated by converting biogas into electricity.



### CONCRETE PROTECTIVE LINERS FOR FEED SILOS

Feed silos lined on the inside with concrete protective liners made of polyethylene, a material resistant to bio-acids, have smooth surfaces that prevent deposits and soiling on the inside. This allows the contents to drain out of the silo unhindered. The permanently chemically resistant inner lining enables years of maintenance-free operation.

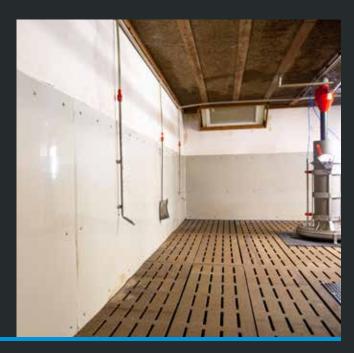
### HYDROCLICK FOR RESTORING WATER TANKS

HYDROCLICK for the rehabilitation of concrete water tanks or basins, the HYDROCLICK system is a suitable choice. Its thermoplastic lining protects the concrete structure from carbonation and corrosion. A patented installation system allows for a rapid restoration of the concrete surfaces. Due to the durability of the HYDROCLICK lining, this solution is particularly cost-effective.

### GEOMEMBRANES FOR HYDRAULIC ENGINEERING

Water reservoirs and slurry tanks with steep slopes are reliably and permanently sealed with plasticizer-free, textured AGRU LINING SYSTEMS. Thanks to their excellent UV resistance, resistance to root ingrowth, rodents, bio-acids and alkaline chemicals, they can be used for many years.





# Thermoplastic sheets

## SHEETS FOR STY CONSTRUCTION

Wall panels, partition walls and feed tables made of plastic sheets are the economical alternative to stainless steel solutions. They are characterized by high impact resistance, rigidity and stability as well as excellent resistance to ammonia, a component in animal faeces. Their high wear resistance ensures exceptionally economical solutions.

### **SHEETS FOR STORAGE AND TRANSPORT CONTAINERS**

Semi-finished products made from durable and non-corrosive plastics are also ideal for the production of storage and transport containers for animal feed or fertilizers. PE 100-RC is ideal. Thanks to its outstanding weather and UV resistance, light weight and excellent processing properties, the material can be customized for any application.



### SHEETS AND PIPES FOR EXHAUST AIR SCRUBBERS

In order to protect the environment from odor emissions from livestock farms, immission control requirements have been in place for livestock facilities for a number of years. PE 100-RC semi-finished products are ideal for the construction of exhaust air scrubbers for livestock farming. With these exhaust air scrubbers, it is possible to filter ammonia, dust and biogas from the discharged air. AGRU semi-finished products are characterized by high strength, low specific weight, good thermal insulation and easy processing.









# Piping systems

## PIPING FOR VENTILATION TECHNOLOGY

An integrated shed ventilation system is essential for many agricultural applications in order to meet legal requirements. AGRUCHEM PP pipes and AGRULINE PE 100-RC pipes are ideal for this purpose due to their easy installation, chemical resistance and permanent tightness.













### **PIPELINES FOR IRRIGATION SYSTEMS**

Climatic changes increasingly require efficient irrigation of farmland, even in the moderate climate zone. Extended dry periods during the growing season in spring and summer lead to severe harvest losses. With AGRULINE piping systems made of crack-resistant PE 100-RC, the precious resource of water is supplied to the fields without any loss. AGRULINE piping systems can be welded homogeneously and are permanently leak-proof. The flexibility of PE allows changes in direction to a certain extent without the need for fittings.

### **ELECTRICALLY CONDUCTIVE PRODUCTS**

There are numerous sensitive fire and explosion hazard areas in agricultural operations. These include biogas plants, slurry and fertilizer storage, grinding and mixing plants, pelletizing plants, storage facilities, silos and bunkers. In these ATEX zones, any electrostatic charge must be prevented in order to avoid a spark discharge and subsequent ignition or explosion. Electrically conductive ESD (electrostatic discharge) polymers ensure safety as they dissipate electrostatic charges in a controlled and permanent manner.















