

Special multi-layer agricultural films

- ✓ *Silage*
- ✓ *Grain storage*
- ✓ *Livestock applications*



KRITIFIL®
AGRICULTURAL
FILMS

 **PLASTIKA
KRITIS S.A.**

PLASTIKA KRITIS

at a glance

PLASTIKA KRITIS was established in 1970. It is one of the leading European manufacturers of high-quality agricultural films, with sales to more than 70 countries around the world.

Manufacturing facilities

PLASTIKA KRITIS manufactures agricultural films in Greece, France & China, with a total capacity of 90.000 MT/year. A fourth plant is starting up in 2021 near Nanjing, China.

Revolutionary 7-layer technology

Having foreseen the advantages of wide 7-layer films in agricultural applications, PLASTIKA KRITIS is among the first companies worldwide that has invested in this technology. The company's two large 7-layer lines are of unique design. They allow us to manufacture innovative, cost effective, high performance films, including O₂ barrier films for silage and stronger, more air-tight silage bags.

Innovation

Our Research & Development Center has been designed to create an environment that fosters innovation and permit our scientists to realize their imagination and creativity. It is equipped with a variety of laboratory instruments that enable them to study the properties of materials and develop new solutions that bring value to our customers.

2 Vertical integration

We manufacture in-house all the color & additive masterbatches that provide the properties and appearance of our agricultural films. This enables us to control the quality of our products from A to Z and gives us an enhanced ability for new product developments

3

Film Development & Production

We develop and manufacture a wide range of multi-layer agricultural films

4

Recycling

We operate in Crete a modern plastics recycling plant which specializes in used agricultural films

1

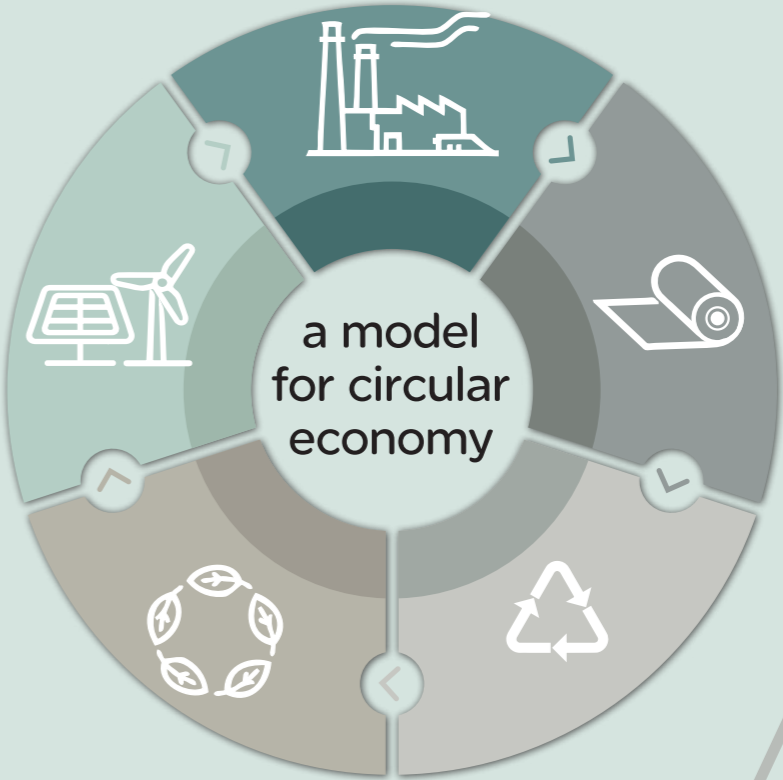
Renewable energy

Our products are manufactured with zero CO₂ emissions, as all the energy we consume is made from renewable sources at our Wind farm and Photovoltaic stations

5

Reuse

The largest portion of the recycled material that we produce is reused in applications where this is possible, for example in plastic cores for our films



PLASTIKA KRITIS - Greece



HITEC Plastics - Shanghai



AGRIPOLYANE - France



HITEC Plastics - Anhui



OXYGEN BARRIER

Silage films

At PLASTIKA KRITIS we strive to create innovative high quality silage covers that offer more safety, easier handling and installation, better preservation of the forage and higher profit to professional farmers.



The 2 effects that lead to perfect silage

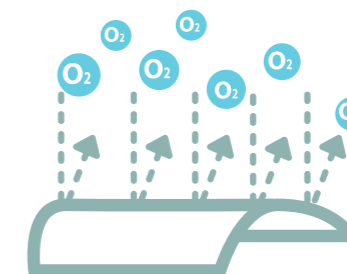
A number of studies as well as practical experience demonstrate that there are two effects which can result in perfect silage



1. The Oxygen Barrier effect

Reduced oxygen permeation through the silage film results in higher quality of the feed, reduced spoilage and increased nutritional value.

- Film surface
- O₂ Oxygen



2. The Vacuum effect

A thin and flexible film below the main silage film, called an **Underlay** or **Vacuum film**, clings on the surface of the forage and prevents **air pockets** between the silage film and the forage at the upper part and edges of the silo, resulting to a significant improvement of the forage quality.

- Silage Film
- Vacuum Film
- Air pockets



With Vacuum film under the main silage film



Without Vacuum film: air pockets between the silage film and the forage

SILO₂BLOCK[®]

A real Oxygen Barrier silage film

SiLO₂Block[®] is a very strong and flexible **7-layer barrier** film, that includes a thin EVOH layer in the middle. Having 50 times lower O₂ permeability than PE films, SILO₂BLOCK prevents the entry of O₂ in the silo, thus improving the conditions of anaerobic fermentation and resulting in less spoilage and higher quality of the stored product.


7-layer


Oxygen Barrier


UV stabilized


100% virgin

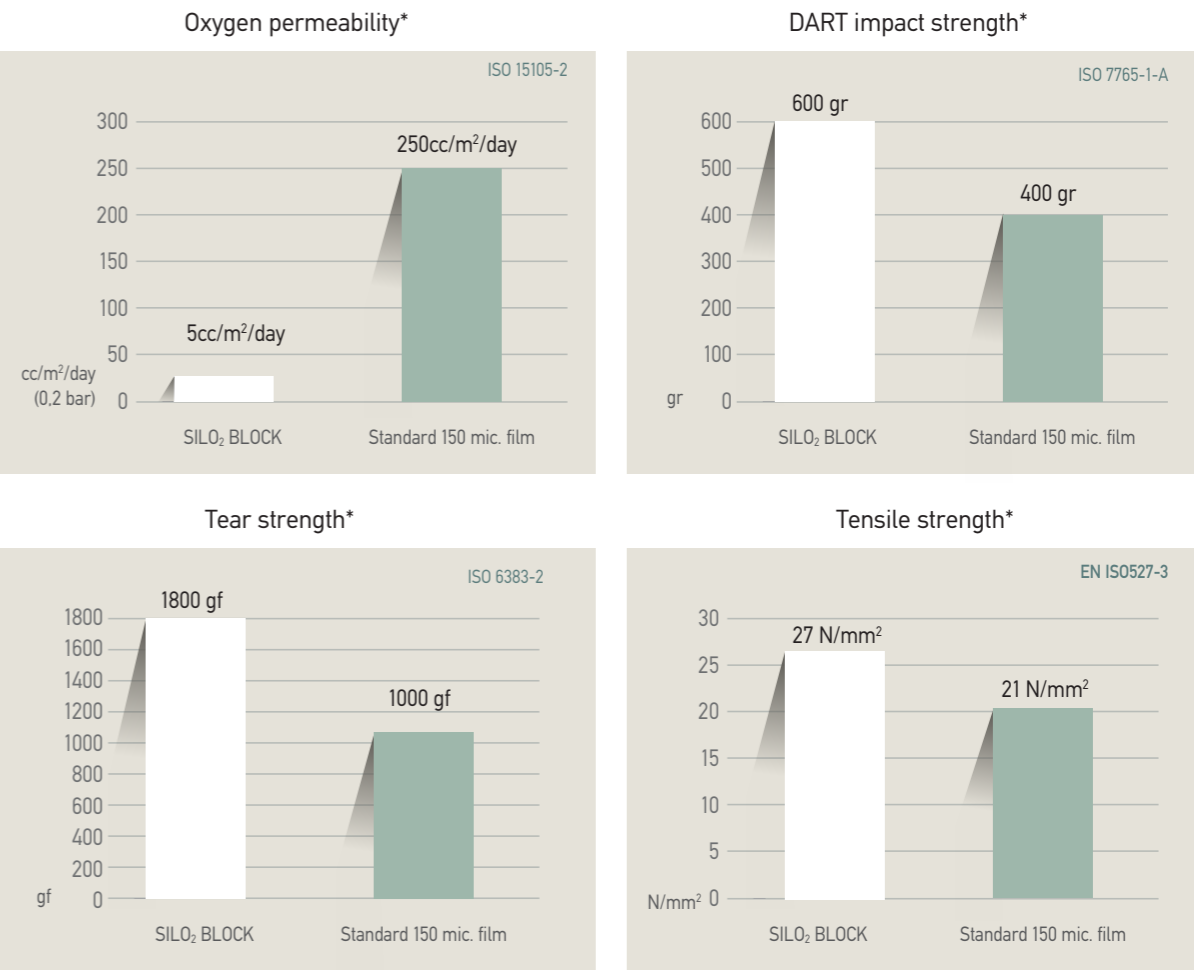

Recyclable


Wind made

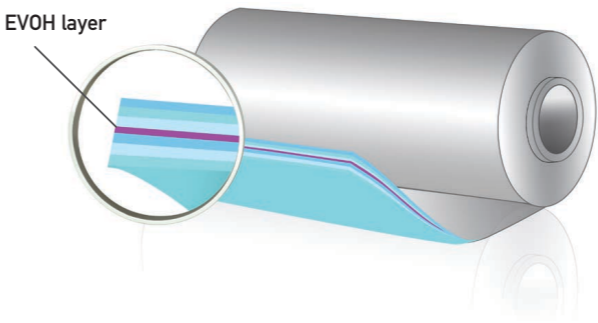

Lightweight



50 times lower O₂ permeability than conventional silage films	Thinner, still stronger than a standard 150 mic. PE film	Easier to handle and install	Safely packed with PE film + non-woven cover for additional protection	Soft & flexible , it fits better on the silo and creates less air pockets	Available at very large widths , up to 40 m (130')	Possible folding x16 for easier transportation & storage
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* Typical properties measured on 14 m films (for product specifications please request our product data sheet).

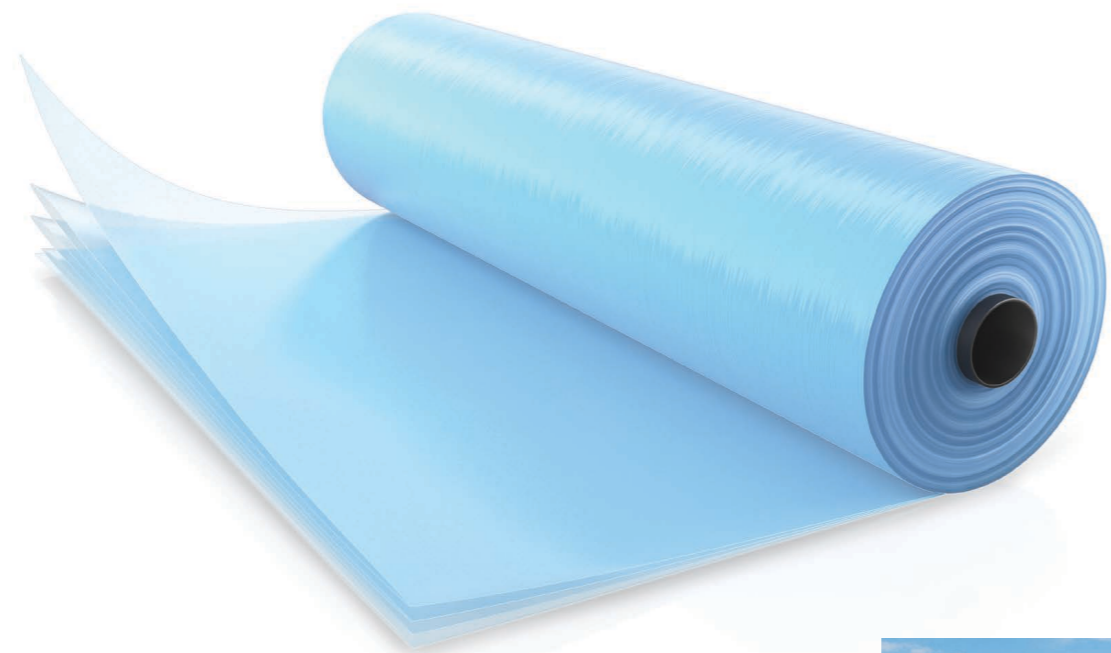


KRITIFIL[®] EV 7039

O₂ Barrier Underlay

The ultimate protection: Barrier + Vacuum effect

Our EV 7039 **O₂ Barrier Underlay** is a transparent 40 mic, soft & flexible **7-layer** vacuum film with a thin layer of EVOH that prevents the entry of O₂ into the silo. At the same time, it is so flexible that it clings on the silo and does not allow air-pockets to be formed between the film and the forage. By completely sealing the forage from Oxygen it dramatically reduces spoilage at the upper part and edges of the silo, thus resulting in a much higher quality of forage.



40 times lower O₂ permeability than PE underlay

Results in **better fermentation** and less spoilage

Additional safety relative to the use of a single silage film

Safely packed with PE film + non-woven cover for additional protection

Available at very **large widths**, up to 20 m (65')





COMBI BARRIER[®]


The incomparable solution for a perfect silage


Our Combi technology
PLASTIKA KRITIS has been the company that invented and first implemented the **Combi technology**, i.e. the introduction of 2 films in 1 roll. By having both the silage film and the underlay film in one and the same roll, we ensure a much easier, faster and safer installation of the films.


Combi Barrier is a smart combination of an O₂ Barrier Underlay and a Metallocene silage film wrapped together in a single roll.



7-layer



Oxygen Barrier



Vacuum

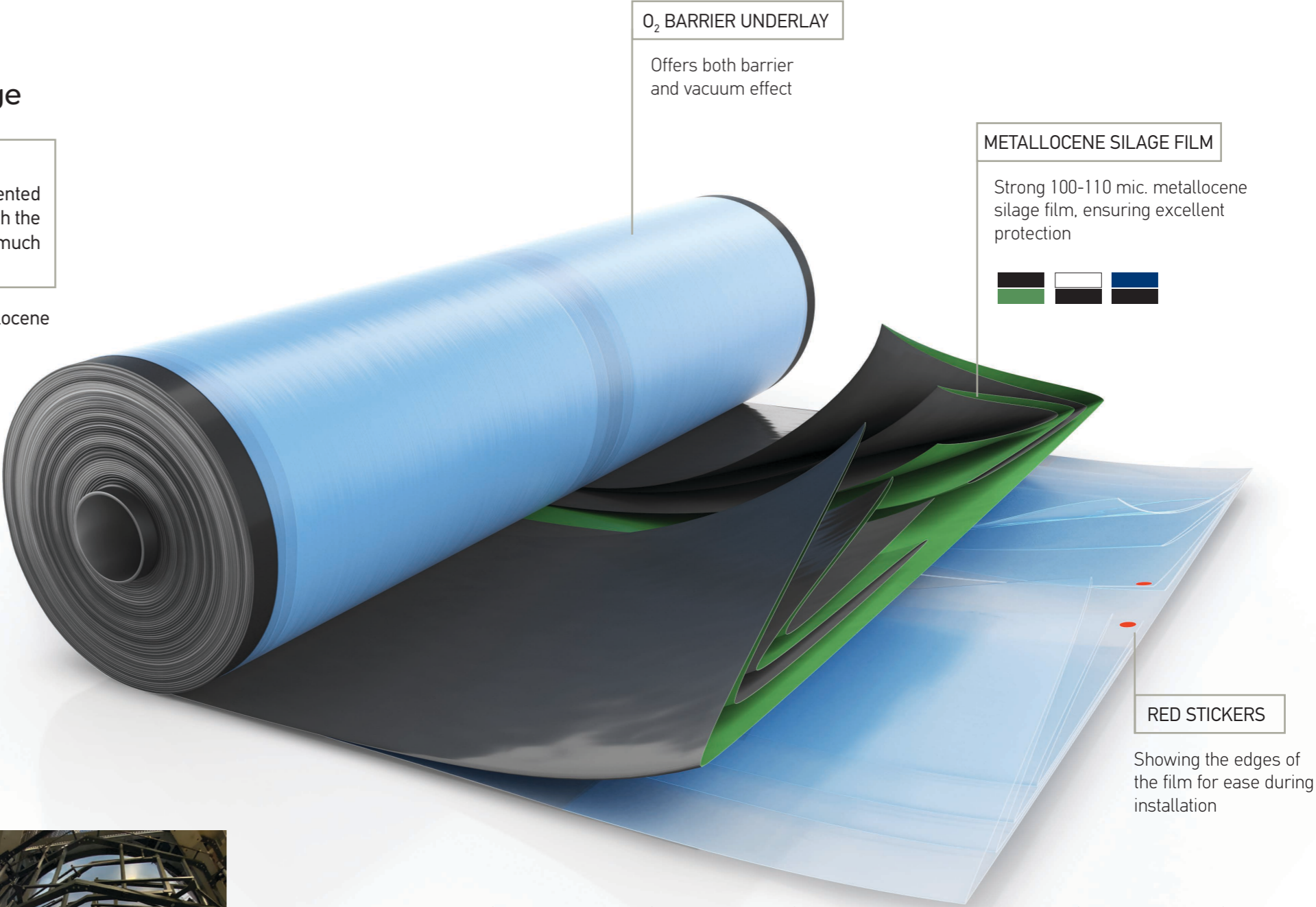

2 in 1


UV stabilized


100% virgin


Wind made


Recyclable



Dramatically lower O₂ permeability than conventional silage films	Better fermentation and less spoilage	Additional safety relative to the use of a single silage film	Safely packed with PE film + non-woven cover for additional protection	Available at very large widths , up to 20 m (65')	Easier, faster and safer installation
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COMBI SILO®

The key to excellent single-move silage covering

A super strong 110 or 115 mic. metallocene silage film and a very flexible PE underlay in one roll.



Easier, faster and safer installation

Additional safety relative to the use of a single silage film

Safely packed with PE film + non-woven cover for additional protection

Available at very **large widths**, up to 20 m (65')

Easier transportation and storage



Metallocene silage Films

A cost-effective and eco-friendly approach to silage covering

Very strong 110-115 mic. films made of Metallocene, the strongest type of polyethylene. They are available in different color combinations such as black/white, black/green, white/green at widths of up to 40 m (130') !

They offer outstanding protection from UV and mechanical damages, thus guaranteeing the integrity and air-tightness of the silo. Also, they are lighter and easier to install than standard silage films.



Available colors



PE Underlay

A thin and flexible film to eliminate air pockets

A 35mic. transparent film made of 100% virgin LLDPE for use as an extra layer under the silage cover. With incomparable strength and softness it clings perfectly on the feed and eliminates air pockets, thus reducing spoilage and improving significantly the quality of the feed. PE underlay is available at widths up to 20 meters (65').



Hitec Bag®

Ideal for silage and grain storage

Silage Bags introduce a system for cost effective, safe and easy storage of animal feed, allowing for optimal fermentation conditions and preservation of the nutrient value.

Grain Bags offer a very cost effective and safe method for temporary storage of grain. Compared to storage in metal silos, grain bagging is a more flexible, more economic and easy to implement solution.

Hitec Bags® are made of strong Metallocene polyethylene offering outstanding mechanical strength. They are UV stabilized with proven additives. The outer side of the bags is white in order to reflect sun radiation and prevent over-heating of the stored product, while the inner side is black offering complete opacity and keeping the contents in a cool and dark environment. Silage and grain bags are manufactured in a variety of sizes. The thickness of the film varies according to diameter and application. They are packed in boxes including tying rope, ruler for measuring the stretch and repair tape.



Outer color ☐ Inner color ☐

Unique combination of advanced polyolefins offering **strength, flexibility, UV-resistance and low creep**

Guaranteed **against UV degradation for 18-24 months**, depending on the country of usage

Diameter 5.2' up to 14'
Length from 15 m to 150 m (50' to 500')

Excellent protection during transport and handling

Films for farm buildings and animal shelters

For efficient, cost-effective covering

Polyethylene films offer an efficient and inexpensive solution for covering farm buildings & animal shelters. PLASTIKA KRITIS offers for this application two solutions:

- A very strong and flexible 7-layer film made of special polyolefin materials at a thickness of 450 mic. and UV-stabilized for 8-10 years depending on the area of use. This is a proven hassle-free solution for long-term coverage, that ensures maximum safety.
- A strong multi-layer PE film at a thickness of 200-250 mic., UV-stabilized for 3-5 years depending on product type and area of use.

Both types are fully recyclable. Most common color combinations are Black/White and White/Green to ensure complete opacity while preventing high temperature rising inside the shelter. Other color combinations are possible upon demand.



Water reservoirs and Manure Pond Liners

For waterproofing and waste containment

PLASTIKA KRITIS manufactures Polyethylene, EVA and Flexible Polypropylene liners at thicknesses from 0.3 mm to 2 mm and widths of up to 13 m (depending on thickness). They have excellent mechanical properties, environmental stress cracking resistance, chemical resistance and UV resistance. Due to our capability to manufacture in large widths, welding and installation is easier, safer and more economic.

Our liners are suitable for irrigation or potable water reservoirs, for manure ponds as well as for floating covers in biogas silos. They have been certified by KIWA for manure storage and by DIBt for biogas installations.





Instructions for successful silage

- The dry matter content should be 32-33% for corn and 27-28% for grass.
- Compaction should exceed 240 kg DM/m³ for corn and 200 kg DM/m³ for grass.
- Close the silo hermetically as soon as possible after the compaction step.
- In the case of clamps, the walls should also be covered with film.
- After laying the film, use silobags all around and across the silo to ensure that the film is firmly secured. The use of tyres is not considered a good method.
- Protect the silo with a suitable net capable of withstanding external aggressions from weather conditions, birds or other animals.
- Prevent the contact of the film with agrochemicals, especially those containing Sulfur and Chlorine, as well as with excessive Nitrogen oxide gases.

Installation instructions



Silo₂Block



Combi Silo



Combi Barrier

The information provided herein is based on our research and experience and is given in good faith. PLASTIKA KRITIS warrants that its products conform to their specifications, however, it is Buyer's responsibility to verify the suitability of a product for his particular use. The amount of any claim against PLASTIKA KRITIS and PLASTIKA KRITIS' liability relative to a product's properties or performance shall in no event exceed the purchase value of the product. In no event shall PLASTIKA KRITIS be liable for loss of profit or special, indirect or consequential damages.

