florikan
the only way to grow.

INFORMATION
GREENHOUSE POLY

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INSTALLATION GUIDELINES

1 If high winds and impact are a frequent problem, two layers of film, inflated with air, should be used. Outside air is recommended for inflating the film due to its low moisture content at low temperatures and its low concentration of chemicals. It is recommended that the air pressure between layers correspond to .01-.014 PSI. Air inflation should be directed at a 45 degree angle to the film. Do not direct perpendicular or near perpendicular. The air should not directly impinge on the film surface. A deflector or diffuser should be used

2 Locking channels should be used to secure the film. The bubble should be maintained as airtight as possible in order to keep the proper inflation between film layers. Wooden slats are not recommended to lock down film. However, if slats are used, they need to be clean, smooth, and coated with a heavily pigmented white, flat latex-based paint. At time of installation, film should be wrapped at least one turn around the slat before nailing to the frame

3 Any nicks, scratches or torn areas on the film should be patched immediately. A tape made from greenhouse film containing a UV stabilized adhesive will achieve best results

4 All metal and wood surfaces, including rafters, in contact with the film should be painted with a heavily pigmented white, flat latex-based paint to reduce heat stress. Treated wood which often contains organic solvents that can damage the film should also be painted with a heavily pigmented white, flat latex-based paint. Paint should be dried completely before the film is installed

5 Greenhouses using PVC pipe in contact with film require special preparation prior to installation of the film over the structure. Certain types of PVC pipe contain high loadings of highly reflective calcium carbonate. These highly reflective surfaces accelerate conversion of the Ultra-Violet Inhibitors in the film, accelerating degradation of the film in contact with the pipe

6 Pipe surfaces in contact with the film should be painted with a heavy coating of highly pigmented white, flat latex-based paint. Pipe surfaces may require light sanding to obtain satisfactory adherence of the paint to pipe surface. Sufficient time should be allowed for the paint to thoroughly dry and cure. The paint, by reducing reflection, will absorb a considerable amount of the Ultra-Violet rays. These precautions apply to all polyethylene films and should be followed when using any film

7 After the film is installed, a heavily pigmented white, flat latex-based paint should be applied to the area over and around the locking channel and an area on the film approximately six inches above the lock

8 If shading is desired, use only those compounds manufactured for the express purpose of shading greenhouse films

9 If a shade cloth is used, either under or over the film, it should not be in direct contact with the film. The movement of a shade cloth against the film will tend to cause abrasions as well as create heat buildup

10 Organic solvents or petroleum-based products should not be put in contact with or in close proximity to the film

11 Fungicides, pesticides or herbicides should never be put in contact with or in close proximity to the film

12 Do not leave soap or detergent of any kind on the film. Immediately after washing the film with a soap or detergent, rinse thoroughly and carefully with water

13 Maintain at least a 3% slope for films with an anti-condensate additive in order to allow moisture buildup to adequately run off

Failure to properly prepare the structure prior to installation will void our warranty

GREENHOUSE POLY INFORMATION

FLORIKAN 5-LAYER GREENHOUSE POLY

What are the most important things to consider when choosing a polyethylene film? In our opinion, toughness and durability. The strength of a polyethylene film is determined by several factors, its gauge, the specific additives used, and of course, the manufacturing process itself

The film used for horticultural applications often has several polymer resins added to enhance its performance in the field

These additives are known as co-polymers, and augment the film to create thermicity, durability and anti-fog attributes. Florikan films are processed from a complete packaged co-polymer, and no further additives are needed during the extrusion process thus assuring a tough, durable and uniform final product

Vigorous tests are done on the film in order to examine its mechanical properties. Some of the most important tests are the following:

+ Falling Dart – Used to evaluate the degree of toughness, or the puncture resistance to hail and blunt objects
+ Tear Resistance – Determines the film's ability to resist continued tearing once initiated
+ Elongation – Assesses the increase in the film's length after being loaded in tension
+ Tensile Strength – The ability of the film to resist being pulled apart. This property is extremely important in areas of high wind and heavy snowfall

The ability of greenhouse film to withstand the rigors of nature is a direct function of the inherent mechanical strength of the film. This strength is determined by the quality of the resins used in production, the types of additives incorporated and the manufacturing process involved therein

FLORIKAN SERVICE

+ A product is only as good as the service that comes with it. It is a well known fact that sometimes in spite of the best of intentions, a product can fail. If and when product failure does occur, there must be a warranty agreement to deal with the situation
+ Florikan has always maintained a warranty that will fully replace any film for UV breakdown on a pro-rated basis. Samples of any failed product are examined in a laboratory so that appropriate action can be taken to prevent further occurence of the problem
+ Florikan custom cut lengths are prepared by unrolling the film from a large master roll onto a customer roll. During this process, the film undergoes a thorough inspection to make sure it is top quality when it gets to the customer
+ Florikan has an ongoing research development and testing program seeking to constantly improve the functional properties of all its products

NOTE: Please contact your Florikan Technical Sales Representative before deciding which product, formulation, release type, and/or rate to use for your crop and conditions.

UV STABILIZED

Invisible ultraviolet light rays in the 100-400 nanometer range on the light spectrum cause discoloration, brittleness, cracking, and reduction of mechanical strength in polyethylene films

When ultraviolet light strikes the film's surface, energy is absorbed and converted into heat; but at the same time polymer molecular bonds are broken down and rearranged. This latter property has the effect of weakening the film and causing discoloration and brittleness. In order to overcome this, special additives are employed

These additives, called quenchers, absorb the energy acting upon the polymer molecular bonds and convert it into heat therefore extending the film life, but quenchers have only limited efficiency and the film will eventually degrade. For this reason, all polyethylene films required to withstand long exposure to UV rays must be vigorously tested for durability. One of the more common lab tests used for this purpose is the filtered xenon light which closely resembles the natural sunlight UV spectrum. In this test, film samples are exposed for specified periods to this light and are then analyzed for polymer breakdown by products such as specific carbonyl groups

A film with 0.5% or more carbonyl is considered deteriorated

FACTORS INFLUENCING USEFUL LIFE OF FILMS

AVOID THE USAGE OF AGRO CHEMICALS

Pesticides used inside greenhouses which are mostly sulfur and/or halogen based compounds may accelerate the degradation of the film. The extent to which they affect the useful lifetime of the polyethylene film depends on many factors, including: Composition of the chemicals; Frequency of application; Method of application; Design of the greenhouse

Listed below are chemicals known to react with polyethylene and/or HALS or suspected to have the potential to reduce film life:

Banrot™*	Sulphur
Chloropicrin	Permethrin
Chlorine Gas	Captan™*
Chlorpyrifos	Diazinon™*
Dithiocarbamates	Mancozeb™
Fluvalinate	Copper Sulfate Solution
Chlorothalonil*	Chlorine Bleach
Vinclozolin	Hypochlorite Pool Chemicals
Dienochlor	Formetanate Hydrochloride
PNCB	Bromoxynil
Oxamyl™	Iprodione
Chlormequat Chloride	Silver Thiosulfate
Methyl Bromide	Methomyl
Bromine Gas	Metham-Sodium

*Trade names used only where no generic name could be found for the chemical or combination of chemicals. The above list does not intend to represent a complete list of all identified known chemicals that can potentially be harmful

THE CROP AND THE GREENHOUSE DESIGN

It is obvious that the type of crop will determine the pesticide to be applied, and as pointed out earlier, the nature of the pesticide used is an important factor influencing the useful lifetime of greenhouse