



Maintenance of the FormFlex[®] cultivation gutter system

Cultivation gutter systems require specific care during use, maintenance, and cleaning. To prevent damage, maintain warranty coverage, and ensure functional properties, it is crucial to clean and maintain the gutters correctly.

This manual contains cleaning instructions, guidelines for the use of cleaning agents, and instructions for repair in case of damage

Protective layers of the FormFlex® gutter system

The FormFlex® gutter system from Metazet is made from high-quality strip steel coated with a zinc layer and, depending on the application, a protective layer (PVC laminate, Second Skin, or a protective coating). These protective layers contribute to the system's lifespan and protect against rust, mechanical damage, and deterioration.

PVC Laminate

Cultivation gutter systems with a fully sealed layer, such as a PVC laminate or polypropylene Second Skin layer, provide robust and durable protection for applications with high cleaning and hygiene requirements. The 150 µm thick PVC laminate layer, applied as a film on the galvanized steel, is highly resistant to scratches, corrosion, and aggressive cleaning agents such as hydrogen peroxide.

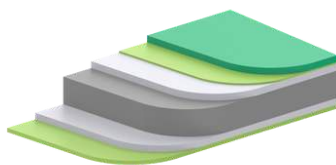
Second Skin

Second Skin is a specially developed plastic top layer applied over the gutter as an additional protective layer. It offers comparable, fully sealed protection to PVC laminate, with the advantage that it can also be retrofitted on existing gutters. This polypropylene layer provides maximum resistance to scratches, high pressure, and aggressive cleaning agents.

Coatings

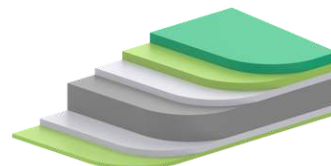
Traditional coatings, such as polyester and polyurethane, protect the cultivation gutter from damage and corrosion but, due to their elastic nature and open structure, are more susceptible to penetration than fully sealed layers. They are therefore more vulnerable to aggressive cleaning agents—especially when used incorrectly, with prolonged exposure, excessive concentration, or insufficient rinsing.

Polyester



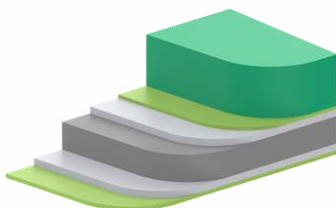
■ Polyester coating (20 µm) ■ Primer (5 µm)
■ Zinc ■ Strip steel

Polyurethane



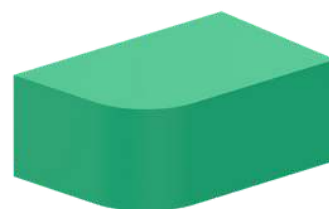
■ Polyurethaan coating (20 µm) ■ Primer (15 µm)
■ Zinc ■ Strip steel

PVC



■ PVC film (150 µm) ■ Adhesive layer / primer
■ Zinc ■ Strip steel

Second Skin



■ Polypropylene film (600 µm)

Cleaning

Careful cleaning of metal cultivation gutters extends their lifespan, preserves functional properties, and ensures optimal hygiene. Follow the guidelines below to prevent damage.

Pre-treatment

- Remove dry and/or stuck-on dirt manually.
- Wet the gutter surface beforehand and allow it to soak for some time to loosen stubborn dirt.
- For persistent dirt, light brushing may be done during rinsing. Do not use cleaning agents or abrasive materials.

Use of high-pressure cleaning

- The use of a high-pressure cleaner is strongly discouraged due to the risk of damaging the coating and underlying zinc layer.
- If a high-pressure cleaner is used:
 - Use a maximum working pressure of 25 bar.
 - Use a dispersed spray (no pinpoint jet).
 - Maintain a minimum distance of 20 cm from the surface.

Cleaning agents and temperature

- Do not use liquids warmer than 60°C
- Avoid (prolonged) contact with aggressive substances such as acids, bases, or peroxides.
- In case of contact, rinse immediately and thoroughly with clean water, including hard-to-reach areas such as overlaps and inner sides.
- Never mix cleaning agents at higher concentrations than recommended by the supplier.
- Never allow cleaning agents to act longer than recommended.
- A list of tested products can be found in the list of common products.
- Products not tested may not be used.
- The cumulative effect of agents (the use of multiple products in succession or in combination) is unknown and is not recommended.

Rinsing and drying

- Rinse the gutters as soon as possible after cleaning or disinfection activities in the greenhouse thoroughly with plenty of clean water to remove all remaining [cleaning] agents. Also take into account activities not directly carried out on the gutter system but taking place nearby, such as cleaning the greenhouse roof or glass.
- Ensure that no volatile cleaning agents remain on the gutter. Residues trapped under the cultivation medium can become active again later, which is considered as continuous exposure to agents and can cause severe damage.
- Ensure that the gutters are completely dry before placing the cultivation medium. Prolonged exposure to moisture can damage the coating and lead to oxidation of the zinc layer.

Importance of correct application and adherence to the cleaning protocol

- The user has, based on the specific cultivation conditions, chosen an appropriate protective layer and aligns the cleaning protocol accordingly. Correct adherence to this protocol is crucial to maintain the functional performance, lifespan, and warranty of the cultivation gutter system.

List of common agents

The list below contains agents often used in horticulture, such as fertilizers, disinfectants, or cleaners. Each agent can have a different effect on coatings or laminate. Always test the effect of the agent on a small area of your system first. In addition, follow the manufacturer's instructions carefully.

The research reports of the tested agents and their influence on the durability of FormFlex® gutters are available upon request.

	Polyester		Polyurethaan		PVC		Second Skin	
	Rinse	Do not rinse	Rinse	Do not rinse	Rinse	Do not rinse	Rinse	Do not rinse
Ammonia <small>[Ammonia]</small>	✓	✗	✓	✓	✓	✓	✓	✓
Ammonium phosphate <small>[Ammonium phosphate]</small>	✓	✓	✓	✓	✓	✓	✓	✓
Acetic acid <small>[Acetic acid]</small>	✓	✗	✓	✗	✓	✓	✓	✓
Bleach <small>[Sodium hypochlorite]</small>	✓	✗	✓	✗	✓	✗	✓	✓
Citric acid <small>[Citric acid]</small>	✓	✗	✓	✗	✓	✓	✓	✓
EcoForte <small>[Hydrochloric acid, Ammoniumbifluoride]</small>	✗	✗	✗	✗	✓	✓	✓	✓
FerSol <small>[Potassium hydroxide, Potassium ferrate]</small>	✗	✗	✓	✗	✓	✓	✓	✓
FloorClean 10 <small>[Glycol ethers]</small>	✓	✓	✓	✓	✓	✓	✓	✓
FoamCalc <small>[Phosphoric acid]</small>	✗	✗	✓	✗	✓	✓	✓	✓
FoamOrg <small>[Potassium hydroxide, Sodium hydroxide]</small>	✓	✗	✓	✓	✓	✓	✓	✓
Formaldehyde <small>[Formaldehyde]</small>	✓	✗	✓	✗	✓	✓	✓	✓
GA Clean <small>[Sulfuric acid, Ammonium Bifluoride]</small>	✗	✗	✗	✗	✓	✓	✓	✓
Glutaraldehyde <small>[Glutaraldehyde]</small>	✓	✓	✓	✓	✓	✓	✓	✓
GreenEx <small>[Ammonium chloride]</small>	✓	✓	✓	✓	✓	✓	✓	✓
Hyperclean X <small>[Sodium hypochlorite]</small>	✓	✗	✓	✗	✓	✓	✓	✓
Intra Multi-Des GA <small>[Glutaraldehyde, Ammonium chloride]</small>	✓	✗	✓	✓	✓	✓	✓	✓
Jet 5 <small>[Hydrogen peroxide, Acetic acid, Peracetic acid]</small>	✓	✗	✓	✗	✓	✓	✓	✓
Machine descaler <small>[Phosphoric acid]</small>	✗	✗	✗	✗	✓	✓	✓	✓

✓ Safe to use ✗ Do not use

List continues on the next page >>

	Polyester		Polyurethane		PVC		Second Skin	
	Rinse	Do not rinse	Rinse	Do not rinse	Rinse	Do not rinse	Rinse	Do not rinse
Menno Fad ex H+ <i>[Formic acid]</i>	✗	✗	✗	✗	✓	✓	✓	✓
Menno Florades <i>[Benzoic acid, Formic acid]</i>	✓	✓	✓	✓	✓	✓	✓	✓
Menno Hortisept <i>[Sodium hydroxide, Sodium sulfate]</i>	✓	✓	✓	✓	✓	✓	✓	✓
Menno Ter Forte <i>[Ammonium chloride]</i>	✓	✓	✓	✓	✓	✓	✓	✓
Mosskade <i>[Lactic acid]</i>	✓	✗	✓	✗	✓	✓	✓	✓
Sodium hydroxide <i>[Sodium hydroxide]</i>	✓	✗	✓	✗	✓	✓	✓	✓
Oxalic acid <i>[Oxalic acid]</i>	✗	✗	✗	✗	✓	✓	✓	✓
Oxiline-50 <i>[Hydrogen peroxide]</i>	✗	✗	✗	✗	✓	✓	✓	✓
Syn-formaline <i>[Formaldehyde]</i>	✓	✓	✓	✓	✓	✓	✓	✓
Virkon S <i>[Potassium peroxymonosulfate]</i>	✓	✗	✓	✓	✓	✓	✓	✓
Water <i>[Water]</i>	✓	✓	✓	✓	✓	✓	✓	✓
Hydrogen peroxide <i>[Hydrogen peroxide]</i>	✗	✗	✗	✗	✓	✓	✓	✓
Sulfuric acid <i>[Sulfuric acid]</i>	✗	✗	✗	✗	✓	✓	✓	✓
✓ Safe to use ✗ Do not use								

Damages and repairs to the gutter system

- Drilling holes into the gutter is strongly discouraged. Moisture penetration between the coating or laminate and the steel can lead to delamination, which is not covered under warranty.
- Minor coating damage can be repaired with liquid coating from a spray can.
- For laminate, scratches without penetration of the laminate film generally do not need to be treated. Tears, punctures, or loose edges must be repaired immediately to prevent moisture infiltration.
- If the zinc layer is also damaged, first treat the surface with zinc spray. Ensure the surface is clean, dry, and grease-free before repair. Remove loose parts or rust by light sanding, then apply one or more layers of zinc spray and coating.
- In case of doubt or major damage: contact Metazet for professional advice.

Contact

For additional questions or support with cleaning, maintenance, or repair, you can contact your Metazet representative or via:

+31 174 225822
info@metazet.com

metazet.com