

OPERATION AND MAINTENANCE MANUAL SABETO SHIELD Including PPM Plan – Planned Preventive Maintenance

Product/System: Sabeto Shield Coating
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Prepared by: SabetoFLEX
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Client: _____
Property/Address: _____

1. PURPOSE

This operation and maintenance manual describes the recommended procedures for routine inspection, cleaning, preventive maintenance and periodic refurbishment treatment of roof surfaces finished with Sabeto Shield Coating.

As a general rule, Sabeto Shield Coating does not require ongoing technical maintenance of the surface system itself. However, to ensure the continued function of the roof, its expected service life and the general condition of the surface, a systematic preventive maintenance plan – PPM (Planned Preventive Maintenance) – is recommended.

The purpose of the PPM plan is to:

- ensure free and correct drainage,
- limit biological growth,
- identify local damage or adverse effects at an early stage,
- prevent minor damage from developing further,
- document the ongoing condition of the roof,
- provide a basis for future refurbishment and possible warranty extension.

This manual should form part of the building's overall operation and maintenance documentation.

2. SCOPE OF APPLICATION

This manual applies to roof surfaces where the Sabeto Shield system has been installed in accordance with SabetoFLEX's current product and installation instructions.

In connection with alterations, refurbishments, new installations, mechanical impacts or other work on the roof surface, care must be taken to ensure that the Sabeto Shield system is not damaged.

Any repair work must be carried out using materials and methods that are compatible with the existing system and in accordance with SabetoFLEX's current instructions.

3. GENERAL OPERATING CONDITIONS

Routine operation of a roof surface with Sabeto Shield primarily consists of:

- cleaning outlets and drainage areas,
- checking for biological growth,
- visual inspection of the roof surface,
- inspection of penetrations, details and connections,
- recording and rectifying any local damage,
- documenting completed inspections and maintenance work.

Cleaning agents, solvents, chemicals or mechanical cleaning methods that may affect the Sabeto Shield surface must not be used without prior assessment.

4. CLEANING OF OUTLETS AND DRAINAGE AREAS

All roof outlets, gullies, downpipes, gutters and other drainage areas must be kept free of:

- leaves,
- branches,
- moss,
- soil,
- sand,
- construction debris,
- loose material,
- other contaminants that may obstruct drainage.

Cleaning is recommended at least twice a year.

As a general guideline, the following is recommended:

Period	Activity
Spring	Cleaning and inspection after the winter period
Autumn	Cleaning after leaf fall and before the winter period

The purpose of cleaning is to ensure free and correct drainage and to reduce the risk of ponding and standing water caused by blocked outlets.

For buildings surrounded by many trees, or where there is particularly heavy exposure to leaves, dust or other contaminants, more frequent cleaning may be necessary.

5. TREATMENT OF ALGAE AND BIOLOGICAL GROWTH

It is recommended that the roof surface be treated against algae and other biological growth every 2 years.

The purpose of the treatment is to:

- limit algae growth,
- limit moss and other biological growth,
- maintain the visual appearance of the surface,
- reduce local accumulation of organic material,
- support the long-term function of the roof surface.

A suitable product compatible with the Sabeto Shield system must be used.

The product's instructions for use and SabetoFLEX's current recommendations must be followed.

6. PERIODIC VISUAL INSPECTION

A systematic visual inspection of the entire roof surface is recommended every 2 years.

The inspection should be carried out by a person with relevant building-technical knowledge and must, as a minimum, include the points below.

6.1 General condition of the roof surface

Check:

- general appearance of the surface,
- signs of abnormal wear,
- local discolouration,
- areas with accumulated dirt,
- biological growth,
- signs of local water accumulation.

6.2 Mechanical damage

Check for:

- cuts,
- punctures,
- flaking or peeling,
- impact marks,
- damage caused by foot traffic,
- damage caused by tools or construction work,

- local effects from installations or technical equipment.

6.3 Penetrations and connections

A visual inspection must be carried out around, for example:

- ventilation penetrations,
- pipe penetrations,
- rooflights,
- chimneys,
- technical installations,
- flashings,
- connections to walls and upstands.

6.4 Outlets and drainage areas

Check:

- that outlets are clear,
- that water can flow unobstructed towards the outlets,
- that there are no significant amounts of standing water,
- that material has not accumulated around the outlets.

6.5 Recording of damage

If local or minor damage is identified, it must be recorded and assessed.

Minor damage should be rectified as soon as possible so that it does not develop further or affect adjacent areas.

If there is any doubt about the extent of the damage or the correct repair method, SabetoFLEX should be contacted.

7. EXTRAORDINARY INSPECTION

In addition to the planned inspections, an extraordinary visual inspection is recommended after events that may have affected the roof surface.

Examples include:

- severe storms,
- extreme rainfall,
- heavy snow loads,
- hail,
- work carried out on the roof by other contractors,

- installation or replacement of technical equipment,
- damage caused by falling objects,
- abnormal mechanical loading.

For extraordinary inspections, the same inspection principles described in Section 6 apply.

8. PPM – PLANNED PREVENTIVE MAINTENANCE

Interval	Activity	Inspection and action	Purpose
Twice yearly	Cleaning of outlets and drainage areas	Remove leaves, dirt and other contaminants. Check that water can drain freely.	Ensure free and correct drainage
Every 2 years	Algae treatment of roof surface	Treat the roof surface with a suitable and compatible product	Limit biological growth
Every 2 years	Visual inspection of the entire roof surface	Check the surface, penetrations, connections, outlets and mechanical impacts	Identify damage and abnormal wear
After extraordinary impact/event	Extraordinary inspection	Check relevant areas after storms, construction work, technical work, etc.	Identify any new damage
As required	Repair of minor damage	Repairs to be carried out in accordance with current SabetoFLEX instructions	Prevent further development of damage
After approx. 20 years	Refurbishment treatment	Algae treatment, preparation and application of 1 coat of Sabeto Shield Coating	Extend the service life of the system and provide a basis for possible warranty extension

9. ACCEPTANCE CRITERIA FOR PERIODIC INSPECTIONS

Following an inspection, the following conditions should generally be met:

Inspection point	Acceptance criterion
Roof surface	No visible damage affecting the function of the system
Surface	No significant flaking/peeling or abnormal deterioration
Outlets	Clear and functional
Drainage areas	Free from significant accumulation of leaves, dirt and foreign objects
Penetrations	No visible signs of damage or adverse effects
Connections	Appear visually intact
Biological growth	No significant growth assessed as affecting roof performance
Mechanical impacts	No open or repair-requiring damage

Documentation:

Inspection recorded with date, person/company carrying out the inspection and any observations. If one or more acceptance criteria are not met, the condition must be recorded as a deviation. The deviation must be assessed, documented and, where necessary, rectified.

10. HANDLING OF IDENTIFIED DEVIATIONS

Identified conditions may be categorised according to the following principle:

Category	Description	Recommended action
A – No deviation	Normal condition; no intervention required	No further action
B – Observation	Minor condition with no immediate effect on function	Record and review at the next inspection
C – Maintenance required	Condition that should be rectified to prevent further development	Plan corrective work as soon as possible
D – Critical condition	Damage or condition presenting a risk of failure or consequential damage	Assess and rectify the area as soon as possible

Photographic documentation is recommended for Categories B, C and D.

11. REFURBISHMENT TREATMENT AFTER APPROX. 20 YEARS

After approximately the first 20 years of service, a preventive refurbishment treatment of the Sabeto Shield surface is recommended.

The refurbishment treatment must be carried out in accordance with SabetoFLEX's instructions applicable at the time of treatment.

The basic procedure is as follows:

Step 1 – Visual inspection

Before treatment, the entire roof surface is inspected.

Any local damage or areas requiring separate repair are recorded and addressed before the final Sabeto Shield treatment.

Step 2 – Algae treatment

The entire roof surface is treated with a suitable algae remover.

The treatment must be carried out in accordance with the product's instructions for use and SabetoFLEX's current instructions.

Step 3 – Treatment period

After the algae treatment, the surface must be left for approximately 14 days before further treatment.

The actual treatment period may be affected by weather conditions, temperature, humidity, product selection and the condition of the surface.

Step 4 – Inspection and preparation

Before applying Sabeto Shield, the surface must be inspected.

The roof surface must be suitable for further treatment and free from conditions that may affect adhesion, including:

- loose material,
- contaminants,
- significant biological growth,
- foreign objects.

Any local damage must be repaired in accordance with the current instructions.

Step 5 – New Sabeto Shield treatment

One coat of Sabeto Shield is then applied to the existing treated roof surface.

For this maintenance/refurbishment treatment, one coat is used rather than the two coats applied during the original installation of the system.

12. WARRANTY AND EXTENSION OF SERVICE LIFE

When the prescribed refurbishment treatment is carried out after approximately 20 years in accordance with SabetoFLEX's product, installation and warranty conditions applicable at that time, it may be possible to obtain an additional warranty period.

Under the current principles, a correctly completed refurbishment treatment after the first 20 years may form the basis for an additional warranty period of up to 20 years.

This may allow for a total warranty period of up to 40 years, provided that all relevant conditions are met.

After a further approximately 20 years, the refurbishment process may in principle be repeated using the same procedure:

- Visual inspection.
- Algae treatment.
- Approximately 14-day treatment period.
- Necessary preparation and local repairs.
- Application of 1 coat of Sabeto Shield.

If the repeat treatment is carried out correctly, the technical service life of the system and any applicable warranty period may in principle be extended further.

Any warranty extension will always be subject to the product, installation, documentation and warranty conditions applicable at the time of the refurbishment treatment.

13. LONG-TERM MAINTENANCE PLAN

Year 0 – Original installation

The Sabeto Shield system is installed in accordance with the current installation instructions.

Documentation of the original installation is archived.

Years 1–20

Routine preventive maintenance is carried out on an ongoing basis:

1. outlets and drainage areas are cleaned at least twice a year,
2. the roof surface is treated for algae every 2 years,
3. the entire roof surface is visually inspected every 2 years,

4. extraordinary inspections are carried out as required,
5. any damage is recorded and repaired.

Around year 20

A full condition assessment is carried out, followed by refurbishment treatment.

Basic procedure:

Algae treatment → approx. 14-day treatment period → inspection and preparation → 1 coat of Sabeto Shield.

Years 21–40

The routine PPM plan continues at the same intervals.

Around year 40

The refurbishment treatment may in principle be repeated using the same procedure.

Years 41–60

The PPM plan continues, provided that the condition of the system is still assessed as suitable.

14. OVERVIEW OF LONG-TERM PPM

Time	Activity
Year 0	Original installation of the Sabeto Shield system
Every spring	Cleaning and inspection of outlets
Every autumn	Cleaning and inspection of outlets
Every 2 years	Algae treatment
Every 2 years	Main visual inspection
As required	Repair of local damage
After extraordinary impacts/events	Extraordinary inspection
Approx. year 20	Refurbishment treatment with 1 coat of Sabeto Shield
Years 21–40	Continued PPM
Approx. year 40	New assessment and possible refurbishment treatment
Years 41–60	Continued PPM in accordance with current instructions

15. DOCUMENTATION

All inspections, maintenance work, repairs and refurbishment treatments should be documented throughout the service life of the roof.

The documentation should include, as a minimum:

1. date of inspection or treatment,
2. property/project,
3. name of person carrying out the work,
4. areas inspected,
5. description of work carried out,
6. identified damage or deviations,
7. classification of any deviations,
8. description of repairs carried out,
9. products used, where relevant,
10. photographic documentation,
11. date of planned follow-up.

The documentation should be retained together with the building's other operation and maintenance documentation.

The documentation may be used in connection with:

- future condition assessments,
- refurbishment work,
- damage assessment,
- change of ownership,
- technical due diligence,
- documentation of completed maintenance,
- any application for a warranty extension.

16. INSPECTION AND SERVICE FORM

Property/Project: _____

Address: _____

Roof area: _____

Date: _____

Carried out by: _____

Company: _____

Inspection points:

No.	Inspection point	OK	Observation/deviation	Action
1	General condition of roof surface			
2	Mechanical damage			
3	Algae/biological growth			
4	Outlets			
5	Drainage areas			
6	Penetrations			
7	Connections and upstands			
8	Technical installations			
9	Signs of standing water			
10	Abnormal wear			
11	Previously repaired areas			
12	Other conditions			

Recorded observations:

No.	Location	Description of observation/damage	Category A-D	Recommended action
1				
2				
3				
4				
5				

Maintenance carried out:

Activity	Completed Yes/No	Comments
Cleaning of outlets		
Cleaning of drainage areas		
Algae treatment		
Local repairs		
Photographic documentation completed		

Overall assessment of the roof surface:

- ☐ Satisfactory – no further action required
- ☐ Satisfactory with observations – review at next inspection
- ☐ Maintenance/repair recommended
- ☐ Further technical assessment required

Comments:

Recommended date of next inspection: _____

Signature, person carrying out inspection: _____

17. MAINTENANCE LOG

- Date
- Activity
- Carried out by
- Observations
- Actions taken
- Next inspection

18. REFURBISHMENT LOG – 20-/40-YEAR TREATMENT

Property/Project: _____

Treatment year: _____

Inspection point	Date	Carried out by	Comments
Initial visual inspection			
Recording of local damage			
Any repairs			
Algae treatment			
Inspection after treatment period			
Surface preparation			
Application of 1 coat of Sabeto Shield			
Final inspection			
Photographic documentation			

Sabeto Shield batch/product reference used: _____

Total treated area: _____ m²

Date treatment completed: _____

Contractor/company: _____

Responsible person: _____

19. IMPORTANT CONDITIONS

This operation and maintenance manual describes the general recommendations for the Sabeto Shield system.

For specific projects, the following shall always take precedence:

1. project-specific specifications,
2. current technical data sheets,
3. current installation instructions,
4. current safety data sheets,
5. any project-specific agreements,
6. SabetoFLEX's warranty conditions applicable at any given time.

Changes to the product, substrate, area of application or installation principles may require changes to the maintenance procedures.

If in doubt, contact SabetoFLEX before carrying out repair or refurbishment work.

20. CONTACT

SabetoFLEX

Address: _____

Telephone: _____

E-mail: _____

Web: _____

Contact person: _____