

SBC

APPLICATION DETAILS

THERMO SHIELD® AQUA IR 2K

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1. PURPOSE

This document provides practical guidance for the correct installation and application of the **THERMO SHIELD® AQUA IR 2K** coating system.

It complements the **Technical Data Sheet (TDS)**, **Application Guide**, and **System Specification** by describing recommended application practices, typical construction details and on-site installation procedures.

The purpose of this document is to promote consistent workmanship, minimise installation errors and ensure the long-term performance of the coating system under normal service conditions.

This document is intended to assist designers, contractors, inspectors and project supervisors in the correct execution of coating works.

2. GENERAL APPLICATION PRINCIPLES

The successful performance of the **THERMO SHIELD® AQUA IR 2K** coating system depends on proper substrate preparation, suitable environmental conditions, correct material handling and compliance with the recommended application procedures.

Prior to commencing application, the following conditions shall be verified:

- the substrate has been inspected and approved;
- all defects and damaged areas have been repaired;
- repair materials have fully cured;
- environmental conditions comply with the requirements specified in the System Specification;
- all coating materials originate from approved SBC production batches;
- the correct application equipment is available and in good working condition.

Application should, wherever possible, be carried out continuously to minimise visible joints, colour variation and inconsistencies in film appearance.

Any deviation from the recommended application procedure shall be assessed and approved before work proceeds.

3. RECOMMENDED SYSTEM BUILD-UP

Unless otherwise specified in the project documentation, the recommended coating system consists of the following sequence:

1. Substrate inspection
2. Surface preparation
3. SBC-approved primer (where required)
4. First coat of THERMO SHIELD® AQUA IR 2K
5. Second coat of THERMO SHIELD® AQUA IR 2K
6. Final inspection and acceptance

Additional coats may be required depending on:

- substrate porosity;
- substrate condition;
- required Dry Film Thickness (DFT);
- project-specific requirements;
- expected environmental exposure.

Each coat shall be applied only after the previous layer has reached the specified recoating condition.

4. EDGE AND CORNER TREATMENT

Edges and corners are subject to increased mechanical wear and environmental exposure and therefore require additional attention during application.

Before coating:

- remove loose particles;
- smooth sharp edges where practicable;
- ensure complete cleaning of all surfaces.

An additional **stripe coat** is recommended at:

- external corners;
- internal corners;
- welds;
- cut edges;
- difficult-to-access locations;
- sharp transitions.

Stripe coating significantly improves coating durability by increasing the local film thickness at critical areas.

5. JOINTS AND CONNECTIONS

Construction joints and interfaces shall be carefully inspected before coating application.

The following shall be verified:

- joint integrity;
- watertightness;
- condition of sealants;
- absence of movement-related damage.

Damaged or deteriorated sealants shall be replaced before coating work begins.

Where movement joints are present, they shall remain fully functional after coating application unless otherwise specified in the project documentation.

Any newly installed sealant shall be fully cured before coating.

6. FASTENERS AND FIXINGS

Fasteners frequently represent localised points of increased corrosion risk and require particular attention during application.

Typical fasteners include:

- screws;
- bolts;
- rivets;
- washers;
- exposed fixing plates.

Recommended treatment procedure:

1. Remove dirt and corrosion.
2. Clean and degrease the surface.
3. Apply primer where required.
4. Apply an additional stripe coat.
5. Complete the full coating application.

All exposed fasteners shall receive complete coating coverage.

7. METAL SHEET OVERLAPS

Metal sheet overlaps shall be inspected before application.

The following conditions shall be confirmed:

- overlap integrity;
- absence of corrosion;
- absence of trapped contamination;
- adequate drainage.

Coating application shall ensure complete protection of exposed sheet edges without creating excessive material build-up.

Standing water shall not remain within overlap joints.

8. ROOF PENETRATIONS

Roof penetrations require careful detailing to ensure complete weather protection.

Typical penetrations include:

- ventilation pipes;
- electrical conduits;
- cable entries;
- HVAC supports;
- photovoltaic mounting systems;
- lightning protection components;
- mechanical equipment supports.

Each penetration shall be:

- cleaned;
- inspected;
- repaired where necessary;
- stripe coated where appropriate;
- completely covered during final application.

The coating system shall not interfere with the intended function of installed components.

9. DRAINAGE DETAILS

Roof drainage systems shall remain fully operational after completion of coating works.

Particular attention shall be given to:

- roof drains;
- gutters;
- downpipe outlets;
- overflow openings;
- drainage channels.

The coating system shall not obstruct water flow or reduce drainage capacity.

Any excess coating shall be removed before curing if necessary.

10. PARAPET WALL DETAILS

Parapet walls are continuously exposed to solar radiation, precipitation, wind and significant thermal movement. These areas require particular attention during surface preparation and coating application.

Prior to coating, the following shall be verified:

- Copings or metal cappings are securely fixed.
- All joints are watertight and in good condition.
- Cracks, voids and damaged areas have been repaired.
- The substrate is clean, dry and structurally sound.

The coating shall be applied continuously over both the horizontal and vertical surfaces of the parapet, ensuring complete coverage of all edges and transitions.

Where appropriate, an additional stripe coat shall be applied to corners, joints and exposed edges before the full coating system is installed.

11. EAVES, FLASHINGS AND EDGE DETAILS

Eaves, flashings and exposed edge details are particularly vulnerable to weathering and shall receive complete coating coverage.

Special attention shall be given to:

- folded sheet edges;
- exposed cut edges;
- drip edges;
- flashing joints;
- screw heads and rivets.

The coating shall be applied uniformly without obstructing the intended drainage of rainwater.

Any sharp edges shall be treated in accordance with the recommendations provided in this document.

12. METAL SHEET JOINTS

Metal sheet joints shall be inspected before coating application.

The following conditions shall be confirmed:

- joints are properly aligned;
- fasteners are secure;
- no corrosion is present;
- no mechanical damage is visible.

Where deterioration is identified, repairs shall be completed before coating application.

A stripe coat is recommended at joints where increased protection is required.

13. MOVEMENT JOINTS

Movement joints shall remain fully operational after completion of the coating works.

The coating system shall not restrict the designed movement of expansion joints.

Where sealants are incorporated into the system:

- only compatible sealants shall be used;
- sealants shall be fully cured before coating;
- adhesion between the sealant and adjacent coating shall be verified.

Movement joints shall only be coated where specifically permitted by the project specification.

14. PIPE PENETRATIONS AND ROOF-MOUNTED EQUIPMENT

Roof penetrations and roof-mounted equipment require careful detailing to ensure long-term weather protection.

Typical examples include:

- ventilation pipes;
- service penetrations;
- electrical conduits;
- cable trays;
- HVAC equipment supports;
- photovoltaic mounting systems;

- lightning protection systems;
- roof safety anchors.

Each penetration shall be inspected before coating application.

Where required, an additional stripe coat shall be applied around the penetration prior to the application of the full coating system.

Care shall be taken to maintain access for future inspection and maintenance.

15. QUALITY INSPECTION POINTS

Quality inspections should be carried out throughout the project.

The following checkpoints are recommended.

Substrate Inspection

Verify that:

- the substrate is clean;
- the substrate is dry;
- repairs have been completed;
- contamination has been removed;
- the surface is suitable for coating.

Priming

Verify:

- correct primer selection;
- complete primer coverage;
- required curing time;
- absence of application defects.

Coating Application

Verify:

- correct mixing ratio;
- compliance with pot life;
- environmental conditions;
- number of coats;
- coating continuity;
- film thickness.

Final Inspection

Verify:

- colour consistency;
 - surface appearance;
 - absence of visible defects;
 - complete coverage;
 - compliance with project documentation.
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16. RECOMMENDED PHOTOGRAPHIC RECORDS

Photographic documentation is recommended throughout the project to provide traceability and quality assurance.

Photographs should be taken at the following stages:

- before surface preparation;
- after surface preparation;
- after repairs;
- after primer application;
- after the first coat;
- after the final coat;
- upon project completion.

Additional close-up photographs should be taken of critical construction details including:

- joints;
- penetrations;
- parapets;
- flashings;
- roof outlets;
- edge details.

Photographs should include the project reference, location and date wherever practicable.

17. RELATED DOCUMENTS

This document shall be read together with the latest approved versions of the following SBC documents:

- Technical Data Sheet (TDS)

- Application Guide
- System Specification
- Product Description
- Maintenance Guide
- Inspection & Acceptance Checklist
- Declaration of Conformity
- Safety Data Sheet (SDS)

Where differences exist between project documentation and this document, the project specification shall take precedence.

18. DOCUMENT CONTROL

This document forms part of the controlled documentation of the SBC Quality Management System.

Revisions shall only be issued through the approved document control process.

Users shall ensure that the latest approved revision is available at the place of work before commencing application.

Uncontrolled printed copies are provided for reference only and shall not be used where an approved controlled version is available.