

Metal roof refurbishment:

A specifier's guide to good practice.

Accredited
CPD Course

CPD Provider
21638



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gutter & roof refurbishment systems

Performance
Coatings by

Delvemade

Agenda

1. Introduction to Sharmans
2. The lifecycle of a metal roof
3. Points of failure
4. Decision to replace or refurbish
5. Refurbishment considerations
6. Sharmans solutions
7. Virtual demonstration
8. Q&A and close



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1969 - 2019

HD Sharman
founded
Gutter & roof
refurbishment systems

1969

1981
Delvemade
founded
Performance coatings
manufacturer

1982
Seamsil & Delcote
launched
in collaboration with



Sharmans &
Delvemade
Join to form an industry
leading partnership

2018



Established in both gutter and roof refurbishment



30

The graphic consists of four grey rounded rectangular boxes arranged horizontally, each containing a milestone. Above each box is a black arrow pointing to the right. The milestones are: 30 Years (Proven and guaranteed since 1985), 2 Million (Metres of Plygene Gutterline installed), 3.7 Million (Linear metres of Seamsil installed), and 3.8 Million (M² of Delcote applied to UK roofs).

Years

Proven and
guaranteed
since 1985

2

Million

Metres of
Plygene
Gutterline
installed

3.7

Million

Linear metres
of Seamsil
installed

3.8

Million

M² of Delcote
applied to UK
roofs

Metal roof refurbishment:

The lifecycle of a metal roof

New metal roof BS 5427:2016 +A1:2017

- **Building location?**
- What colour?
- Protective coating?



New metal roof BS 5427:2016 +A1:2017

- Building location?
- What colour?
- Protective coating?



Coastal

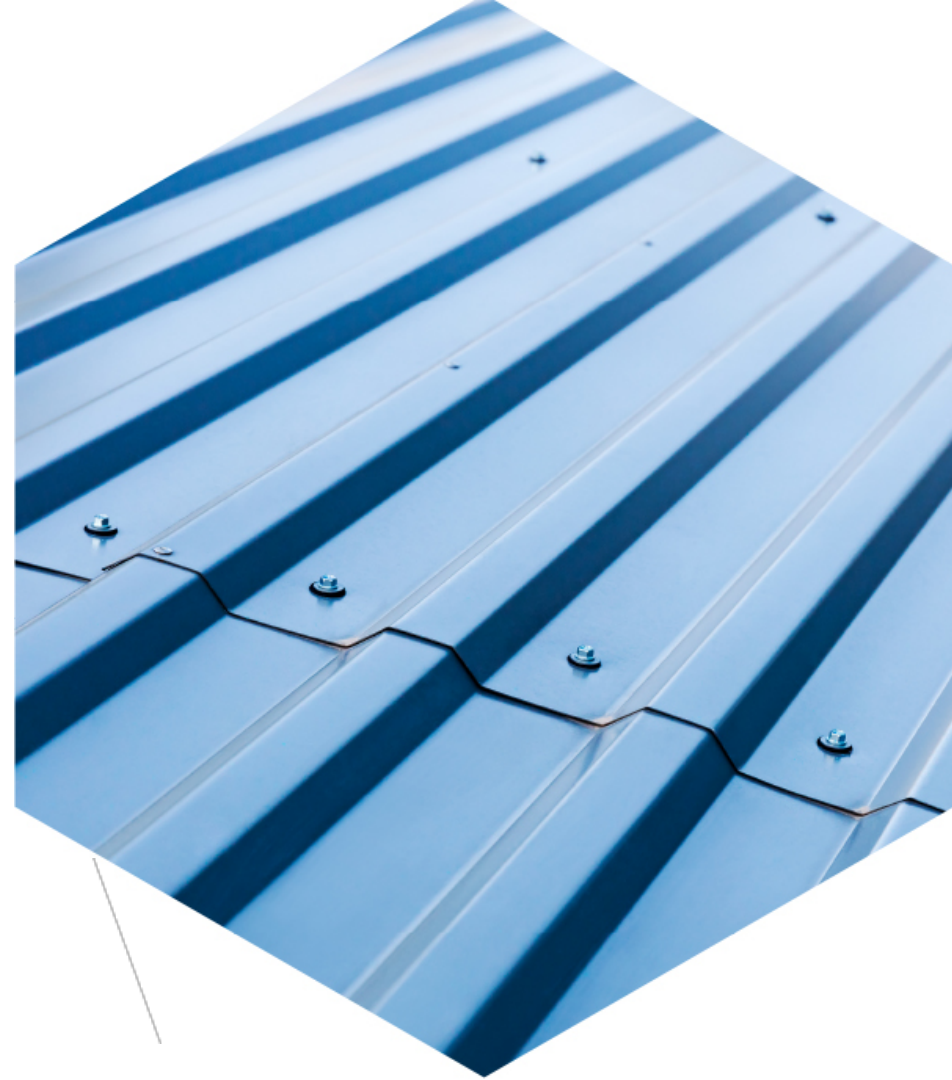
Signature	30yrs
Classic & Matt	25yrs
Solid, Metallic	25yrs
Element	20yrs

Inland

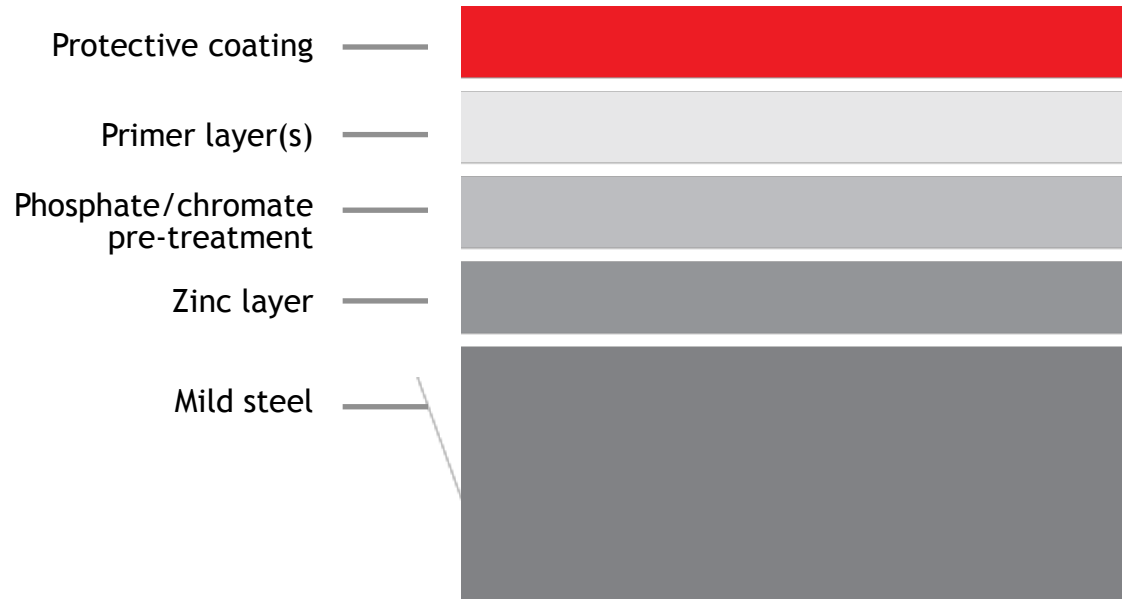
Signature	40yrs
Classic & Matt	30yrs
Solid, Metallic	35yrs
Element	25yrs

New metal roof BS 5427:2016 +A1:2017

- Building location?
- What colour?
- **Protective coating?**

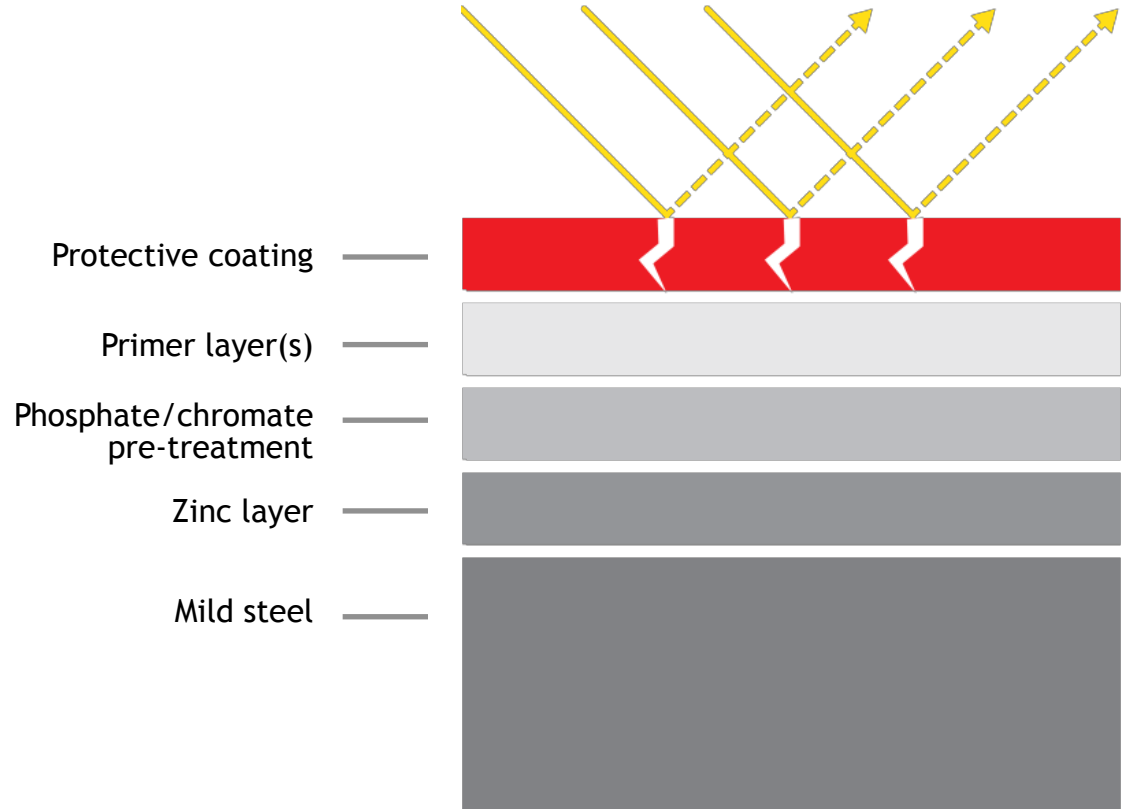


Passage of time and the environment



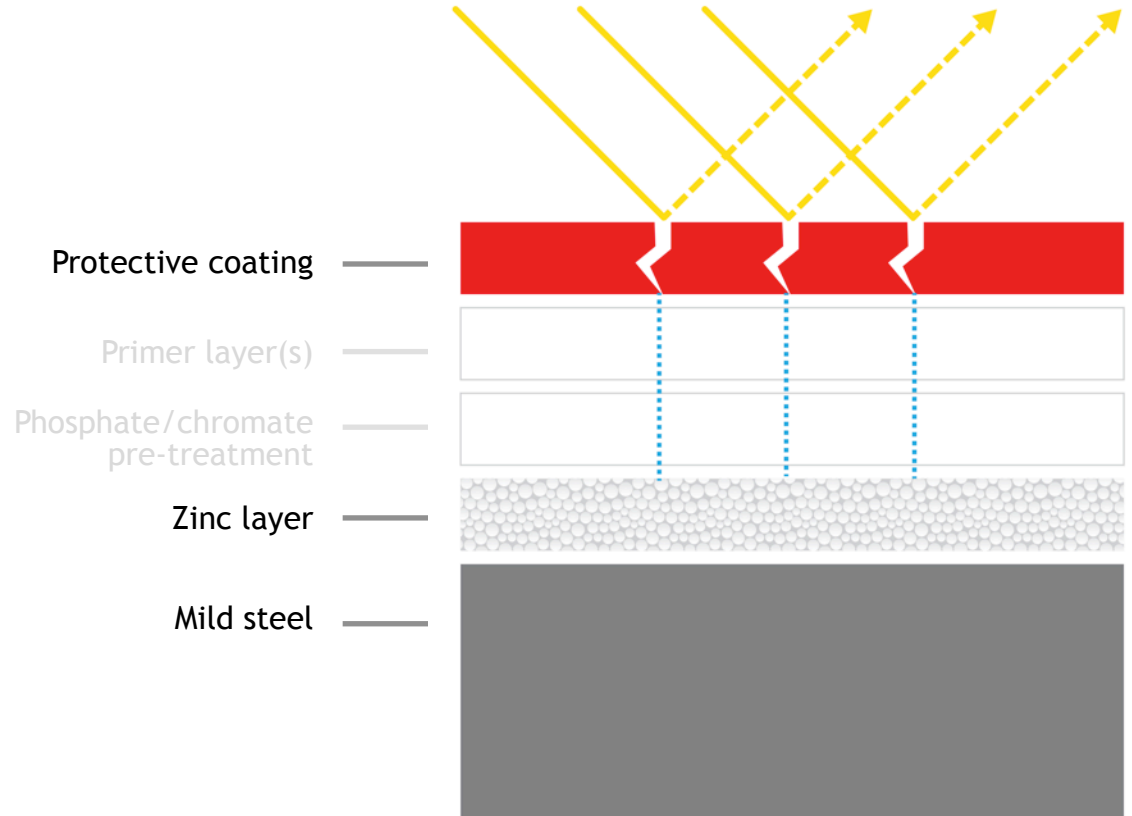
The lifecycle of a metal roof

Passage of time and the environment



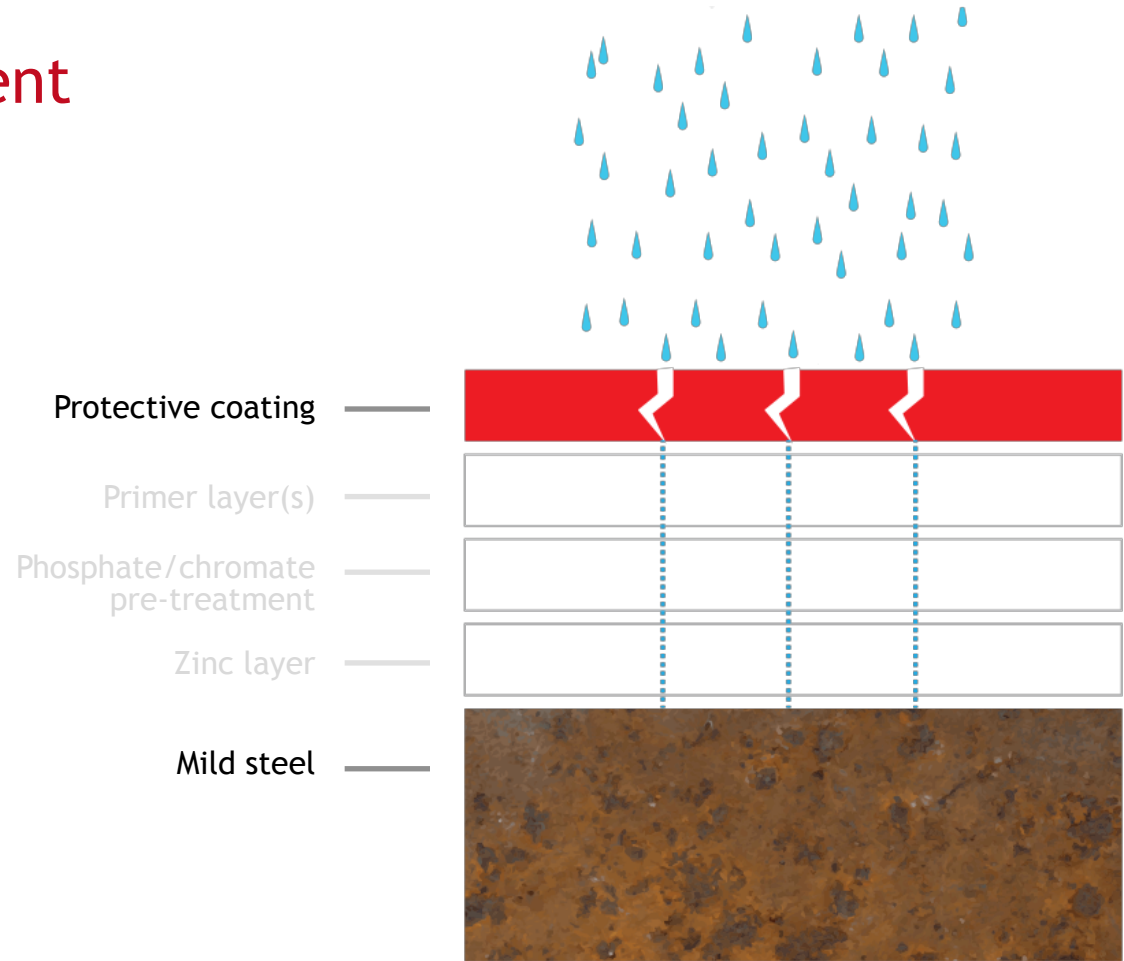
The lifecycle of a metal roof

Passage of time and the environment



The lifecycle of a metal roof

Passage of time and the environment



The lifecycle of a metal roof



Metal roof refurbishment:

Points
of failure

01.
Roof
sheets

02.
Fixings

03.
Roof
lights

04.
Gutter

Points of failure





Points of failure:

01.
Roof sheets



01.

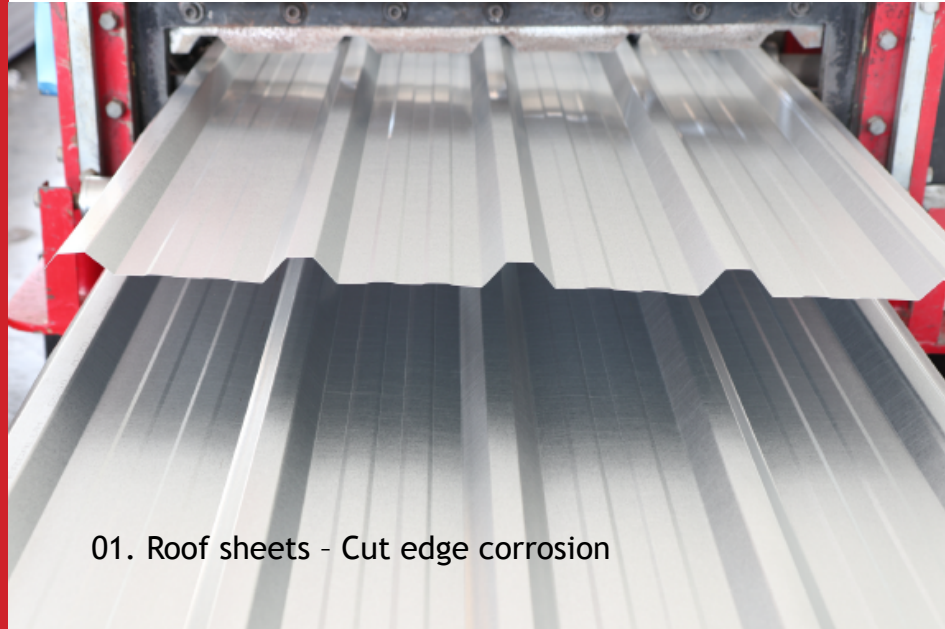
Roof sheets

Phase A:

Cut edge corrosion
5-15 years

How is it caused?

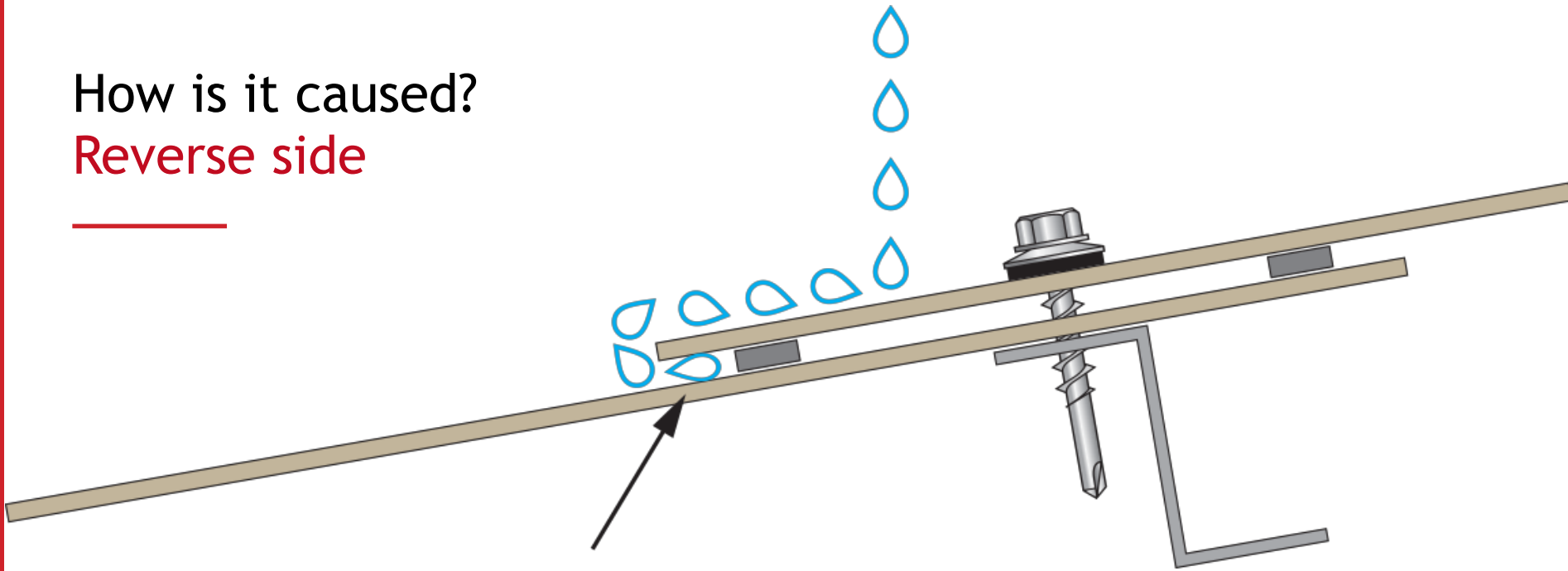
Top side



01. Roof sheets - Cut edge corrosion



How is it caused?
Reverse side



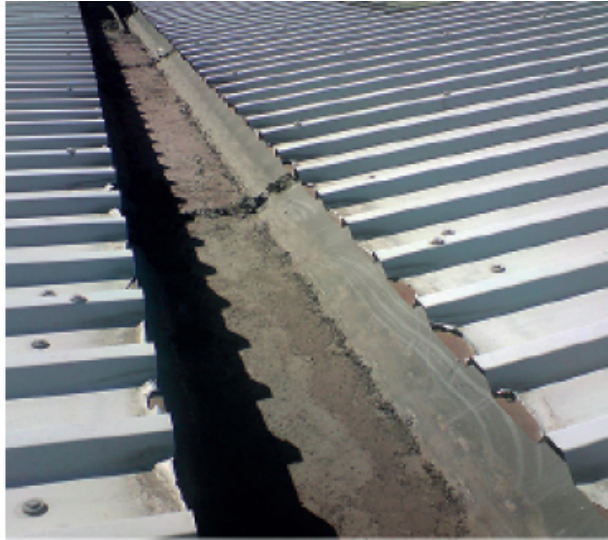
Water is allowed to enter the unsealed lap and is held by capillary action.

Where does it occur?

Overlap



Gutter edge



Flashing



When is it treatable?

Treatable



01. Roof sheets - Cut edge corrosion

Not treatable





01.

Roof sheets

Phase B:

Breakdown of
the coating

Coating micro checking

Phase 1:
Appearance change



Phase 2:
Delamination



Phase 3:
Substrate corrosion



Coatings failure

PVC Plastisol



Pvf2 / Polyester



When is the coating treatable?


Treatable



01. Roof sheets - Breakdown of coating

Not treatable





Points of failure:

02:
Fixings

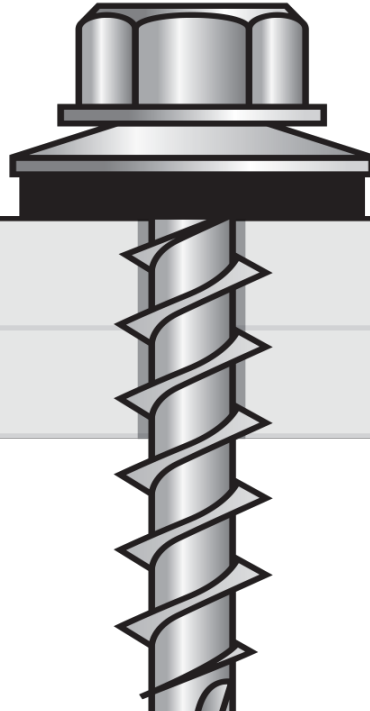
Recommended fastener material to suit EN12944 exposure categories

Corrosivity Category	C1 - Very low	C2 - Low	C3 - Medium	C4 - High	C5-1 - Very high (industrial)	C5-M - Very high (Marine)	Swimming Pools & Chemical Plants
Examples of typical environments in a temperate climate (informative only).	Interior - Heated buildings with clean atmosphere.	Rural areas - Low levels of pollution - Unheated buildings where condensation may occur.	Urban and industrial areas moderate pollution. Coastal area with low salinity - Production rooms with high humidity and some air pollution.	Industrial and coastal areas with moderate salinity.	Industrial areas with high humidity and aggressive atmosphere. Permanent condensation and high pollution.	Coastal and offshore areas with high salinity, permanent condensation and high pollution.	Within pool halls and certain chemical processing plants - fasteners that penetrate or are below vcl and exposed to chlorine vapour.
A5 1.4547 Max Warranty	✓ 40+	✓ 40+	✓ 40+	✓ 35	✓ 25	✓ 25	✓ 20
A4 - 316 1.4401 Max Warranty	✓ 40+	✓ 40+	✓ 40	✓ 30	✓ 20	✗✓ 15	✗ --
A2 - 304 1.4301 Max Warranty	✓ 30	✓ 25	✓ 20	✗✓ 15	✗✓ 10	✗	✗

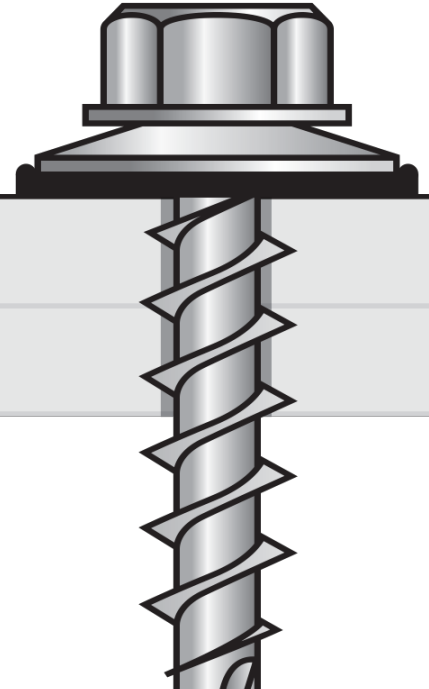
KEY	✓	✓	✗✓	✗
	Suitable but not economic	Recommended	Requires approval	Not suitable

Fixings - correct installation

Correct ✓



Incorrect ✗

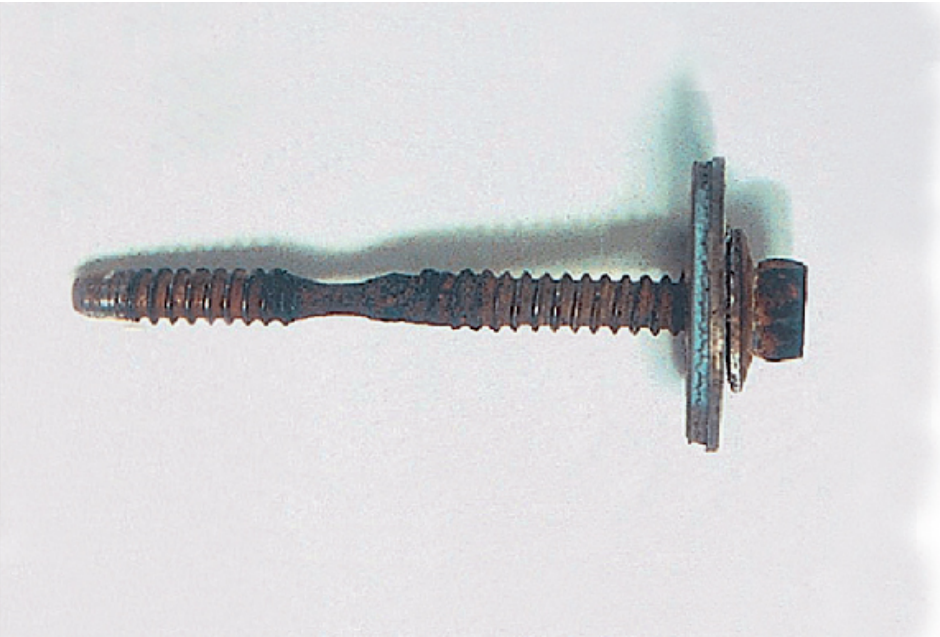



When are fixings treatable?

Treatable



Not treatable





Points of failure:

03:
Rooflights

Rooflights - material selection

Glass



PVC



GRP



When are rooflights treatable?

Treatable



Not treatable



01.
Roof
sheets

02.
Fixings

03.
Roof
lights

??



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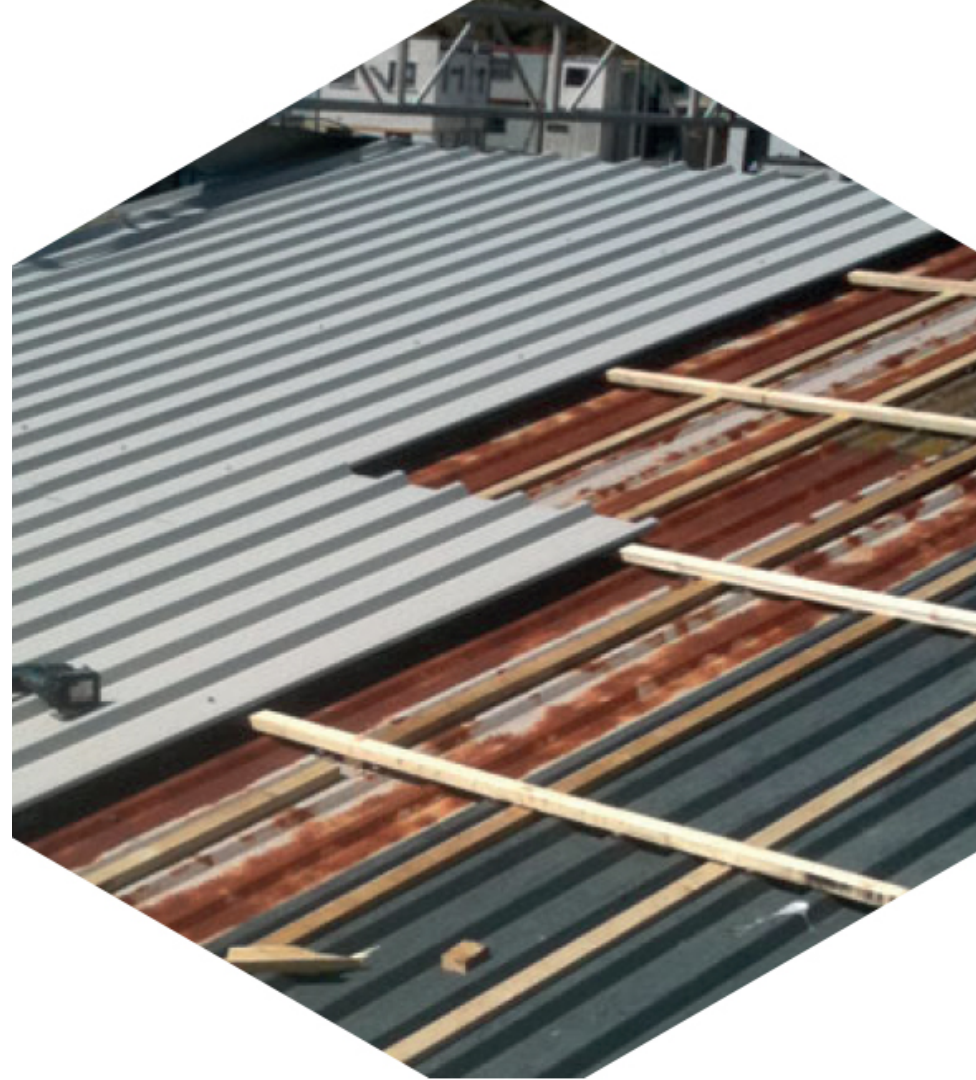
Metal roof refurbishment:

Replace or
refurbish?

Replacement: Over sheeting

- Building regulations
- Lifecycle and refurbishment considerations
- Structural loading
- Condensation risk
- Time and Cost
- Replacement rooflight considerations

Replace or refurbish?



Replacement: Roof renewal

- Building regulations
- Lifecycle considerations
- Waste
- Structural loading
- Cost
- Disruption
- Health & safety

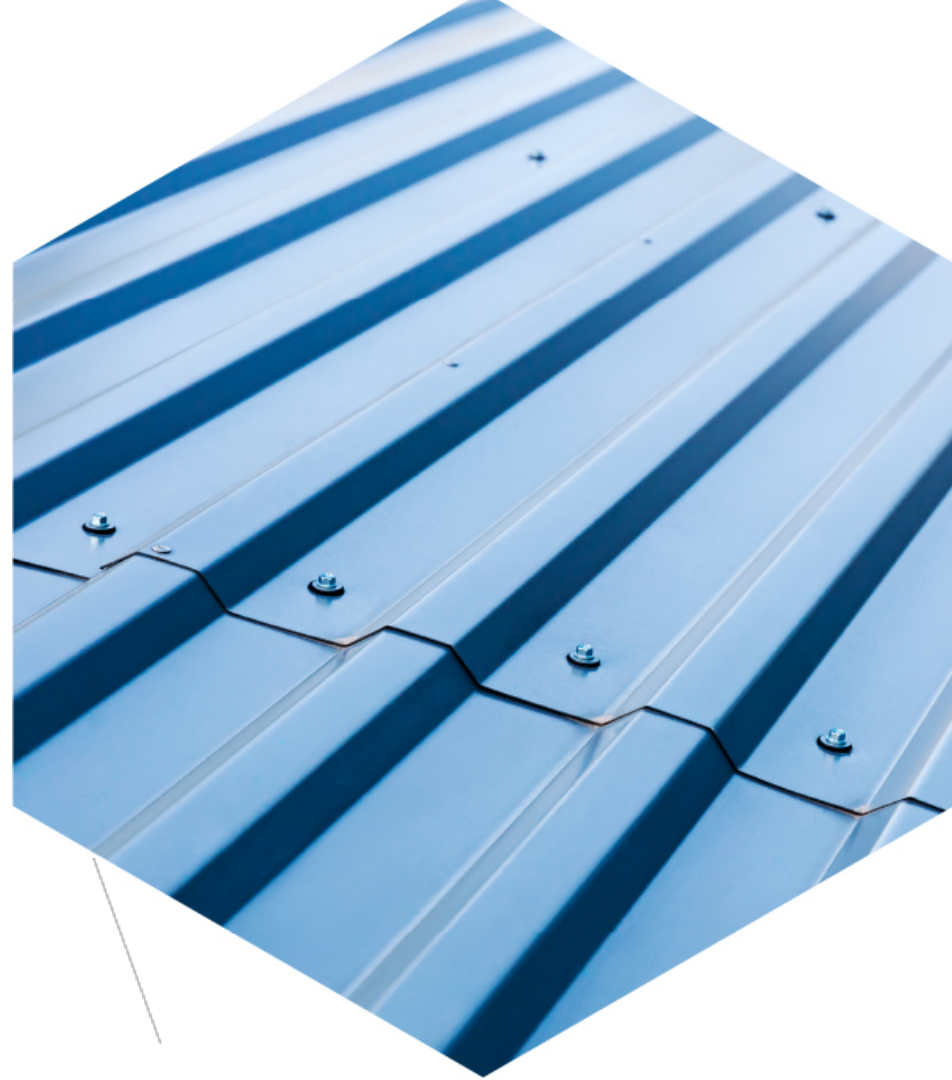
Replace or refurbish?



Refurbishment: Benefits

- Building regulations not applicable
- No additional structural loading
- Minimal disruption to building
- Minimal disruption to owner/tenant
- Quicker
- More cost effective

Replace or refurbish?



01.
Roof
sheets

02.
Fixings

03.
Roof
lights

Refurbishment considerations



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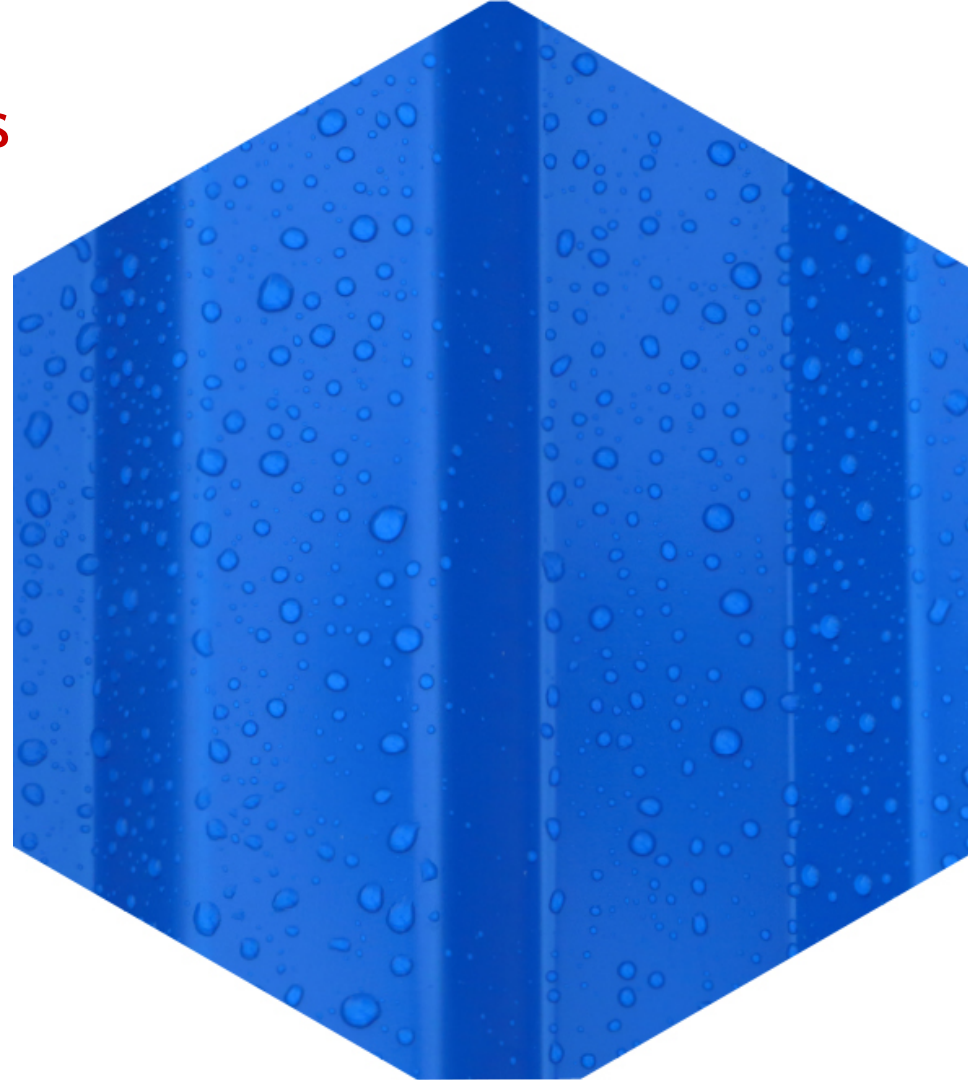
Refurbishment considerations:

01:
Roof sheets

Refurbishment considerations

Coating technology

- Sustainability of coating
- Thermal and UV stability
- Adhesion/compatibility
- Movement accommodation and flexibility
- Proven track record



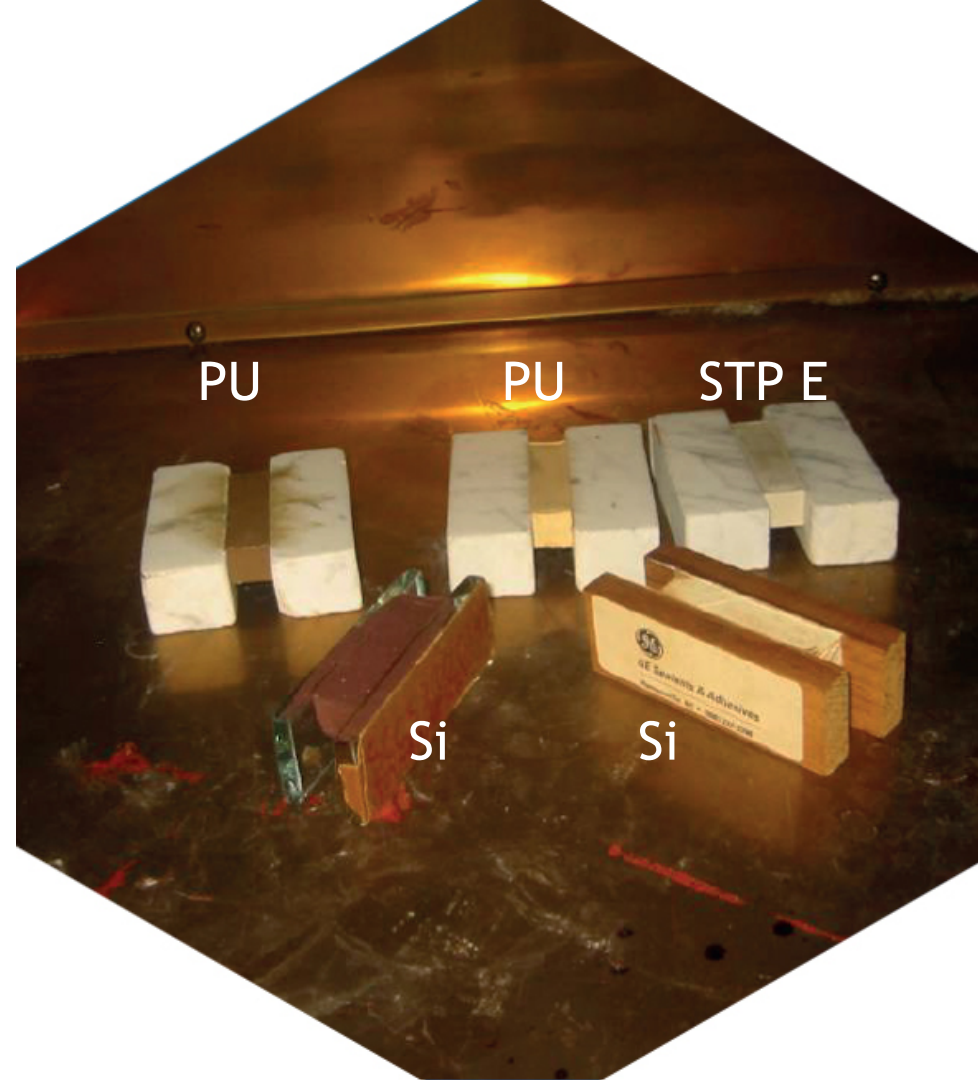
Silicone sealants vs. PU and hybrids

- Thermal stability

Independent testing by:

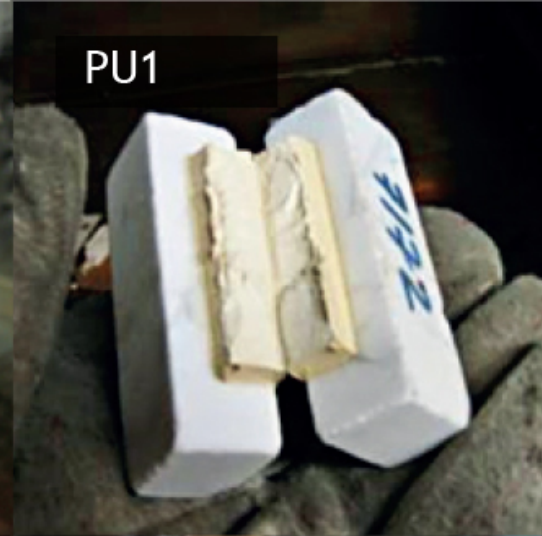


GE Silicones



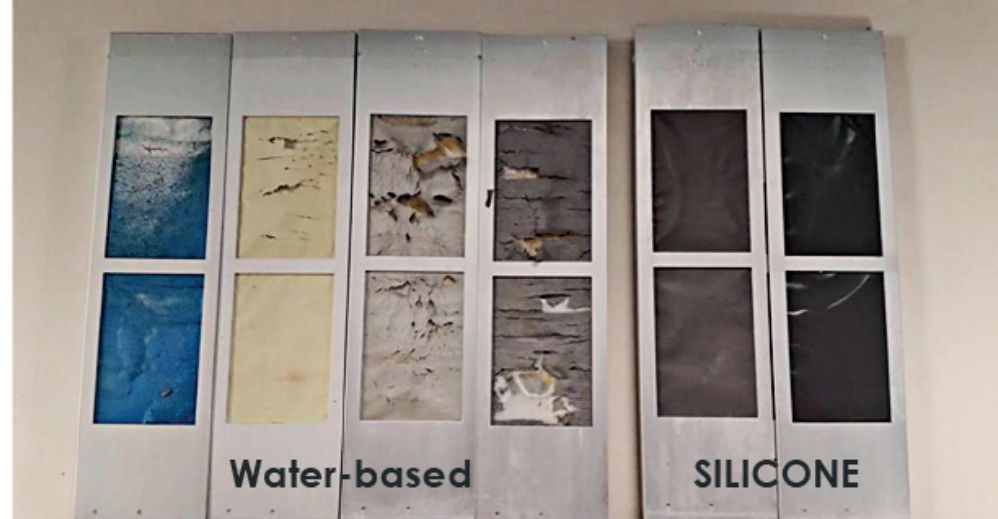
Thermal stability: high heat

- Temperature = 60°C (140°F)



UV stability

- 12.6 hr QUV cycles repeated for 150 days
- Shows potential damage caused by sunlight, heat, rain and condensation

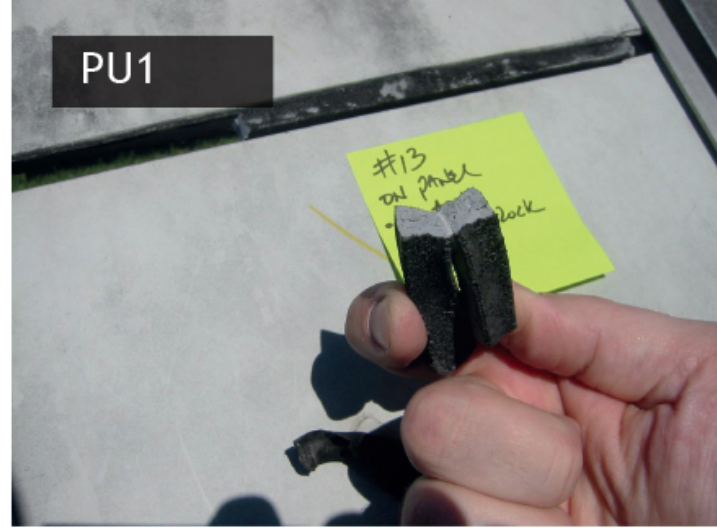


Life time flexibility

UV / temperature / weather stability, Atlas South Florida long term exposure study



PU1

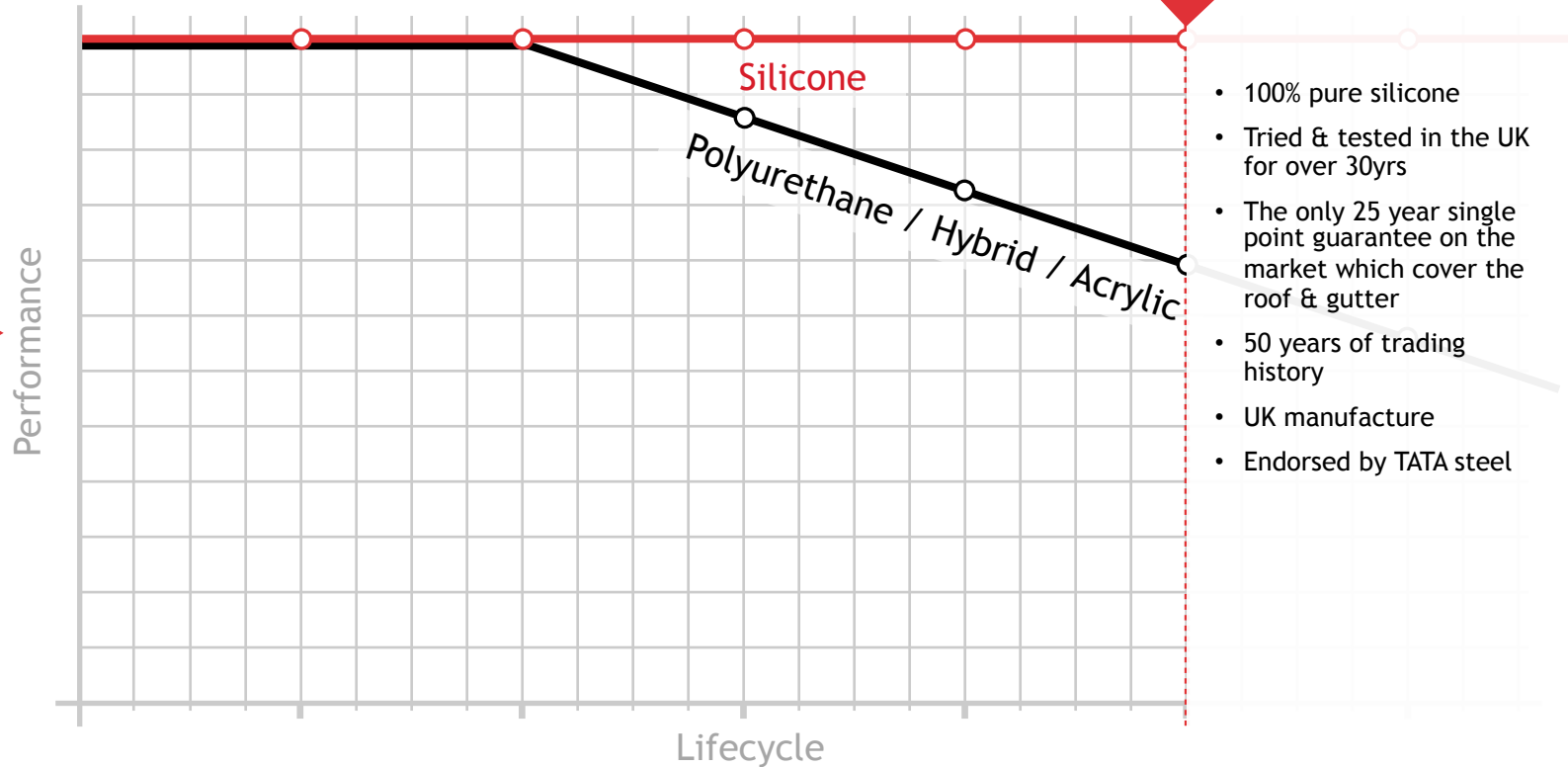


Silicone



Silicone - a clear performance winner

UV stability
+
Thermal stability
+
Lifetime flexibility
=
Performance



Metal roof refurbishment:

Sharmans
lifecycle
support

How we support you...

Survey and
Condition report



Bespoke
specifications



Site Audit
and inspection



Review &
consultation



Approved
Contractor
quotes

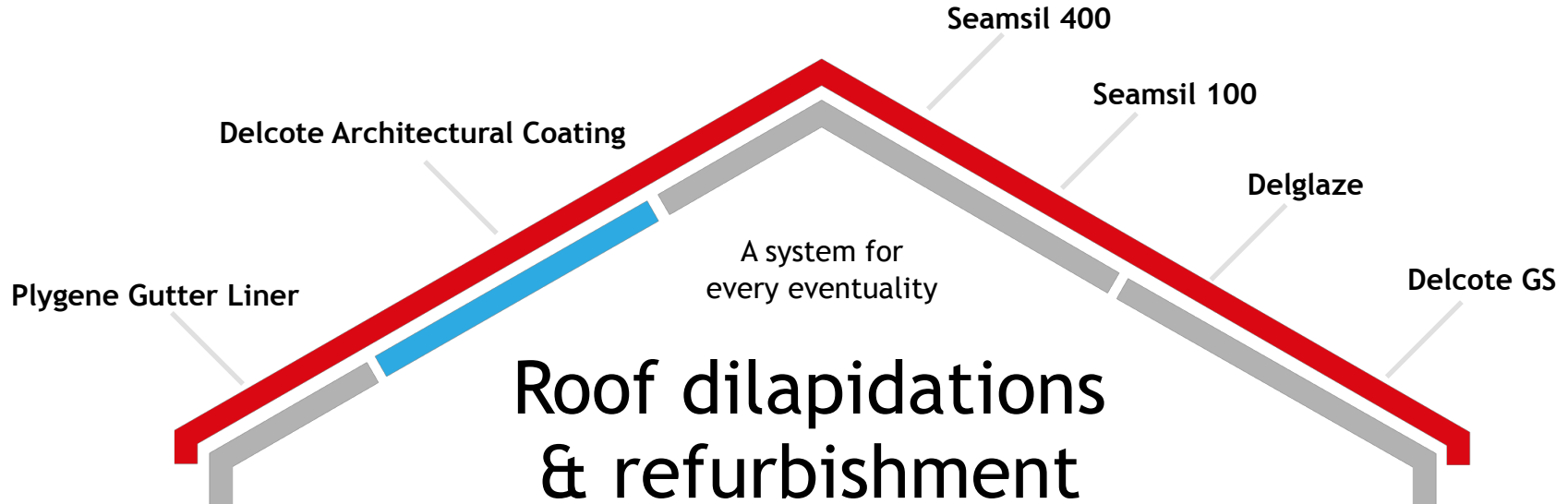


Authorise
Guarantee



25 Year Single Point Guarantee

Product Guarantee



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Performance
Coatings by

Delvemade

Your choice of guarantees

Sharmans offer a choice of either a single point guarantee or a product guarantee to meet your specific project needs.

Both types of guarantee are available to specifiers and Approved Contractors



Guaranteed
system
performance

- ✓ **Gutter and roof** systems
- ✓ **Extend** building lifecycle
- ✓ **Nothing else** comparable
- ✓ **30+ years** tried and tested
- ✓ **Proven** technologies
- ✓ **Product and single point** guarantees





Metal roof refurbishment:

Demo &
Media

04.
Gutter

Why gutters fail
and the options to repair,
replace and refurbish:
A specifier's guide





Refurbishment considerations:

Questions?

A specifier's guide to good practice.

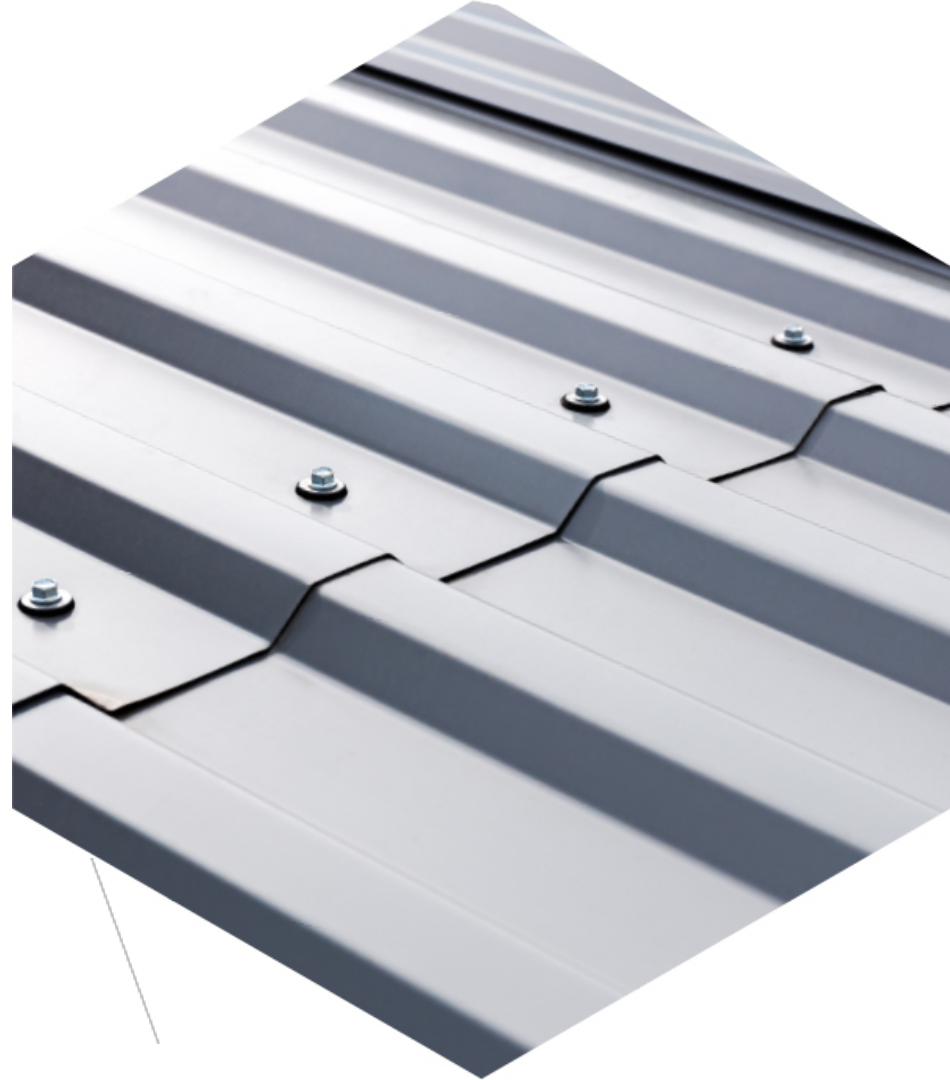
Thank you.



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Refurbishment considerations:

02: Fixings

Replace with new or encapsulate

Replace



Encapsulate



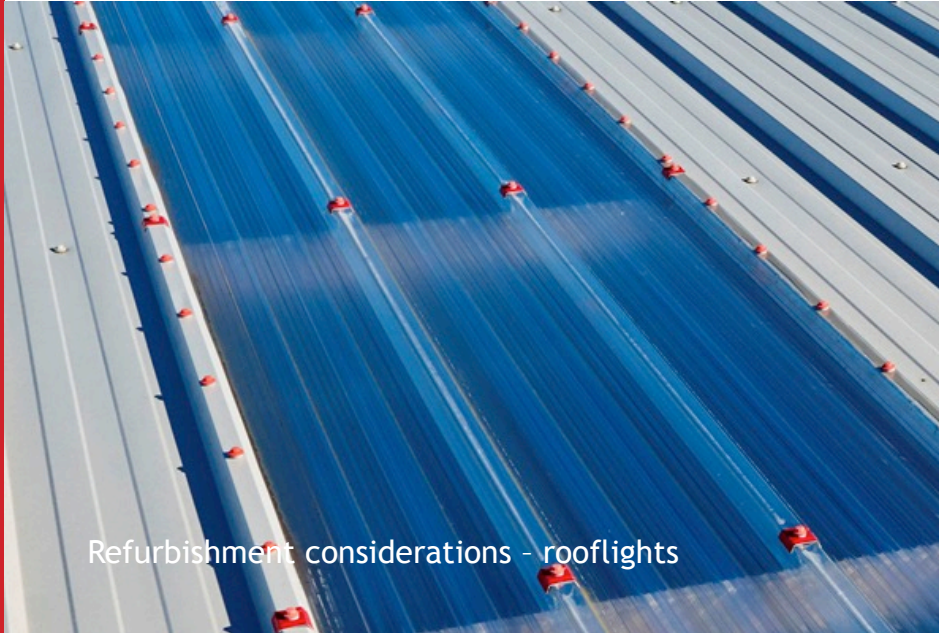


Refurbishment considerations:

03:
Rooflights

Replace new or recoat?

Replace



Recoat



Refurbishment considerations - rooflights