
PRESSERV
Making things last

PRESSERV

Reducing the environmental footprint for surface preparation and coating application for onshore and offshore assets

Cost Efficient, Simple and Fast Corrosion Mitigation

PRESSERV

What we strive for…

- ✓ No application tools necessary, applied as foils or stickers
- ✓ Pre -defined thickness of barrier preventing water and oxygen ingress
- ✓ Adhesion to almost any surface, steel, existing coatings
- ✓ Does not age, retaining barrier properties eliminating crevice corrosion
- ✓ Safe for the applicators and the environment, low CO2 footprint
- ✓ Maintenance and worry free asset protection

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STOPAQ

Visco-elastic Corrosion Prevention & Sealant Technology. A broad range of innovative and patented products with unique, fluid-like properties.

Client scheme evaluating Stopaq, 100m2

CRITERIA	BLAST & PAINT	STOPAQ	PERFORMANCE
Waste		11kg	>99% Waste reduction
Carbon emissions	› Sourced from beach or mining in India or Australia; requires 22,000km transport by bulk carrier › Special transport (separate A+B)	› EU/Norwegian origin › Regular cargo	≥90% Reduced carbon emissions
Safety	› Hazard labeled › Flammable › Allergic reaction to skin due to high chemical exposure › Requires respirator mask given the dust content and exposure	› VOC / CMR free › Non-flammable › No chemical exposure › No dust content nor exposure	Non-hazardous material and exposure
Performance	› 10+ years maintenance interval › 24 months shelf life › 24-36 hours intervals between layers – system several days.	› 30+ years maintenance interval › Unlimited shelf life › Hot or cold applied › Complete system in same day	3x Extended maintenance interval

Cases must include ALL relevant baseline info.

-Type of object.
-Corrosion grade.
-Coating system and thickness.
- +++

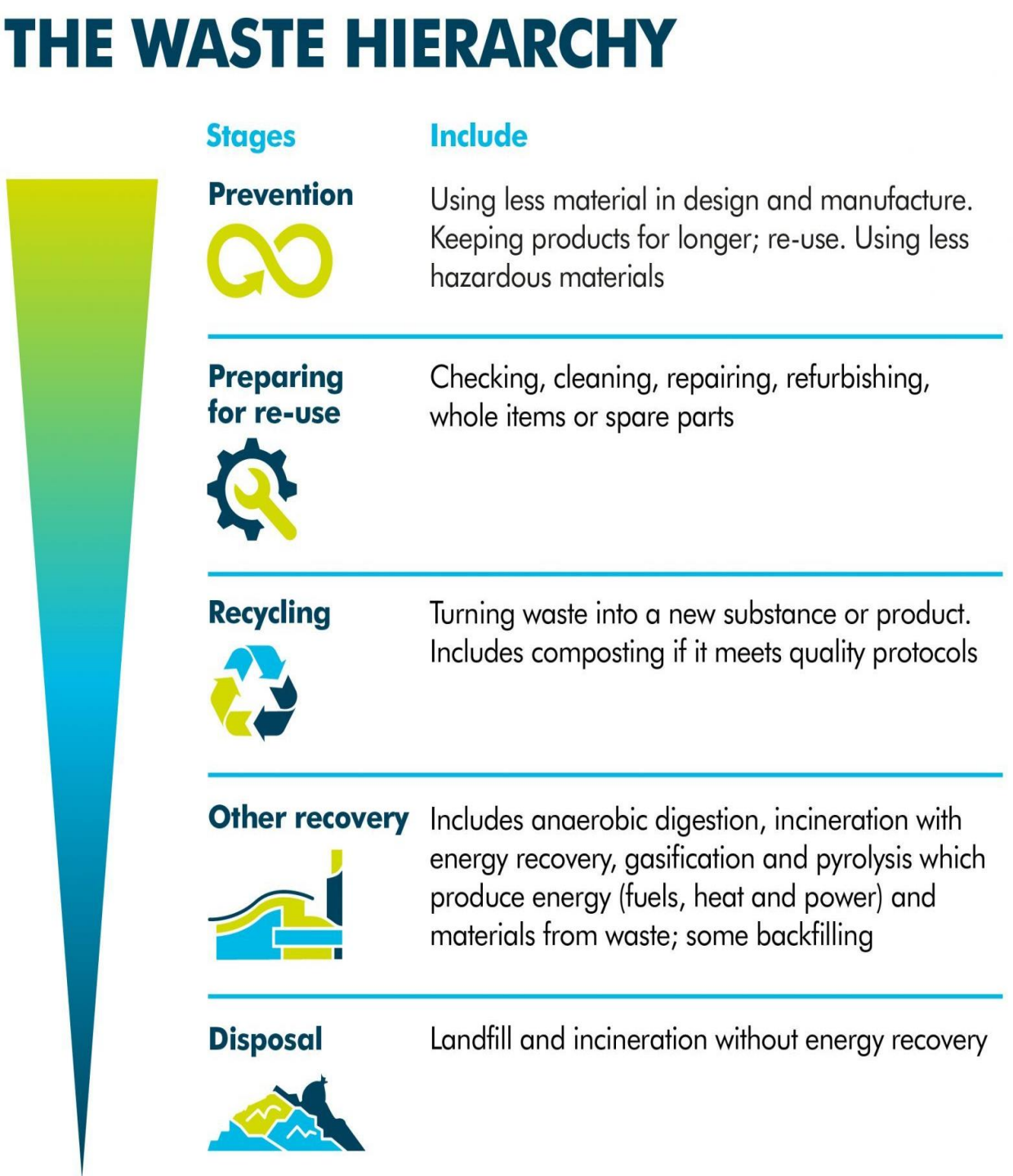
Conclusion:
Stopaq significantly minimizes the waste treatment and improve the environmental impact in project.
Stopaq represent a higher performance and also brings safety benefits for our operators.

Most of our clients is ISO 50001 Energy Management certified.

ISO 50001 is for organizations committed to addressing their impact, conserving resources and improving the bottom line through efficient energy management.

Whether the companies receive support schemes or not, it is a matter of license to operate.

By replacing blast and paint Stopaq system is in a unik position to help these companies to achieve their goal.



Stopaq

For the operator:
-No VOC
-No chemical exposure to skin
-No self-produced noise, noise or vibration

For the Environment:
-No VOC or chemical emissions.
-No need for shared container (A + B comp)
-Less produced waste (not shelf life on Stopaq)
-Stopaq waste (cardboard / foil) can be thrown in combustible waste.
-Long-term protection = reduced maintenance interval
-No need for deposit of garnet
-Reduced consumption of filters, masks, disposable suits, gloves, empty paint buckets, brooms and rollers etc.
-Less working hours will result in less emissions

For project:
-Reduced need for scaffolding and tarpaulins
-Well suitable in combination with rope access
-Reduced waiting time, due to climate / hot / cold pipes
-Reduced required shut-down scope
-No need for storage in special paint containers
-No dust in rotating equipment
-Longer maintenance intervals
-Easy application reduces the risk of errors in work performed

Technology Readiness levels

TRL 9
- Actual system "flight proven" through successful mission operations

TRL 8
- Actual system completed and "flight qualified" through test and demonstration (ground or space)

TRL 7
- System prototype demonstration in a space environment

TRL 6
- System/subsystem model or prototype demonstration in a relevant environment (ground or space)

TRL 5
- Component and/or breadboard validation in relevant environment

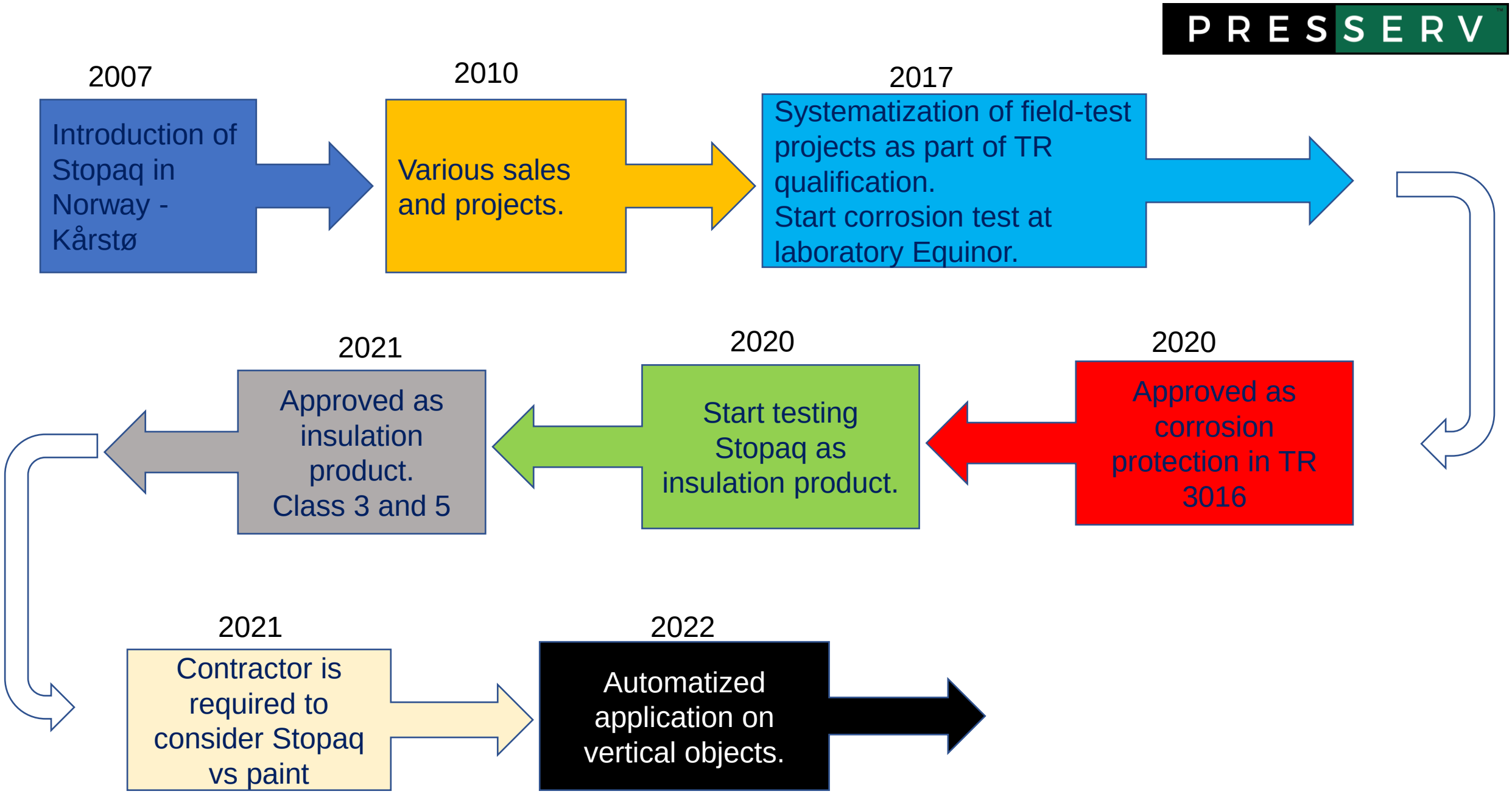
TRL 4
- Component and/or breadboard validation in laboratory environment

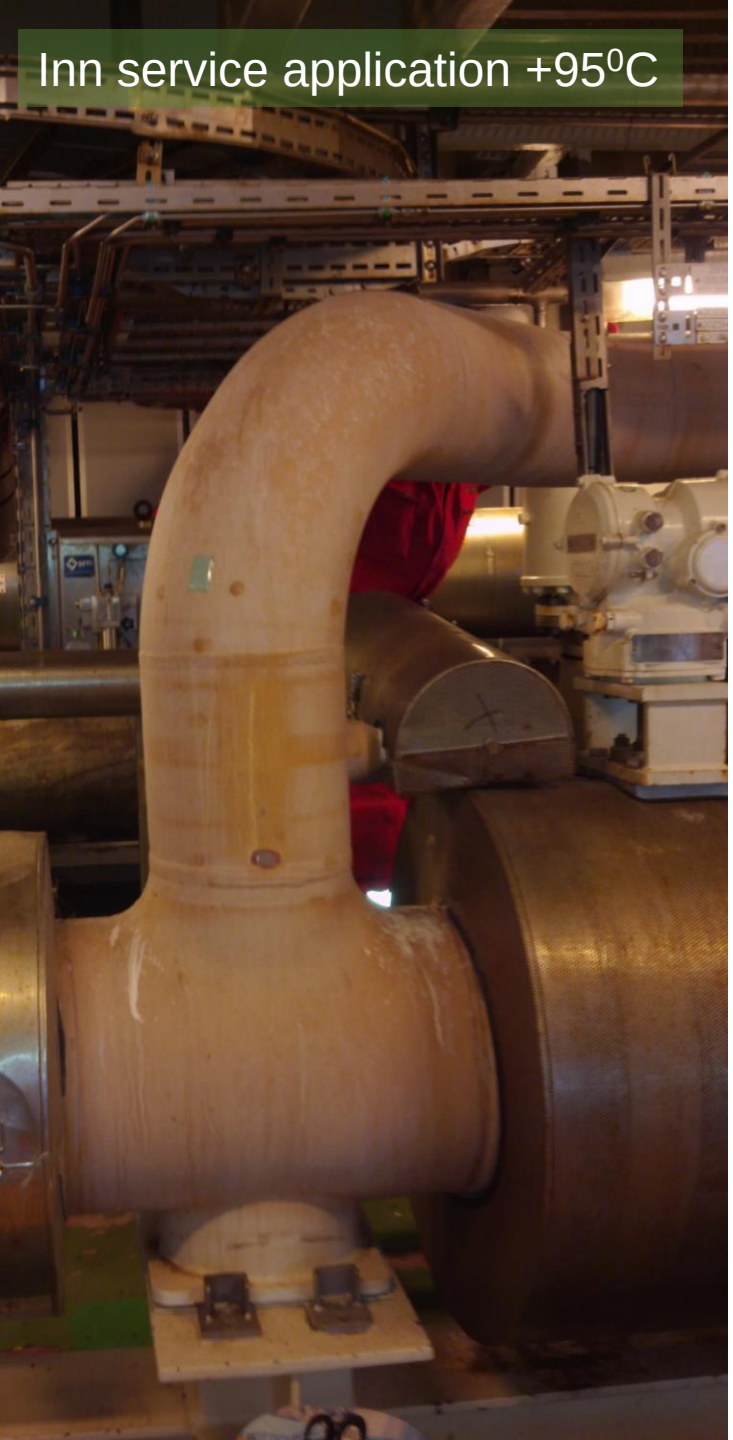
TRL 3
- Analytical and experimental critical function and/or characteristic proof-of-concept

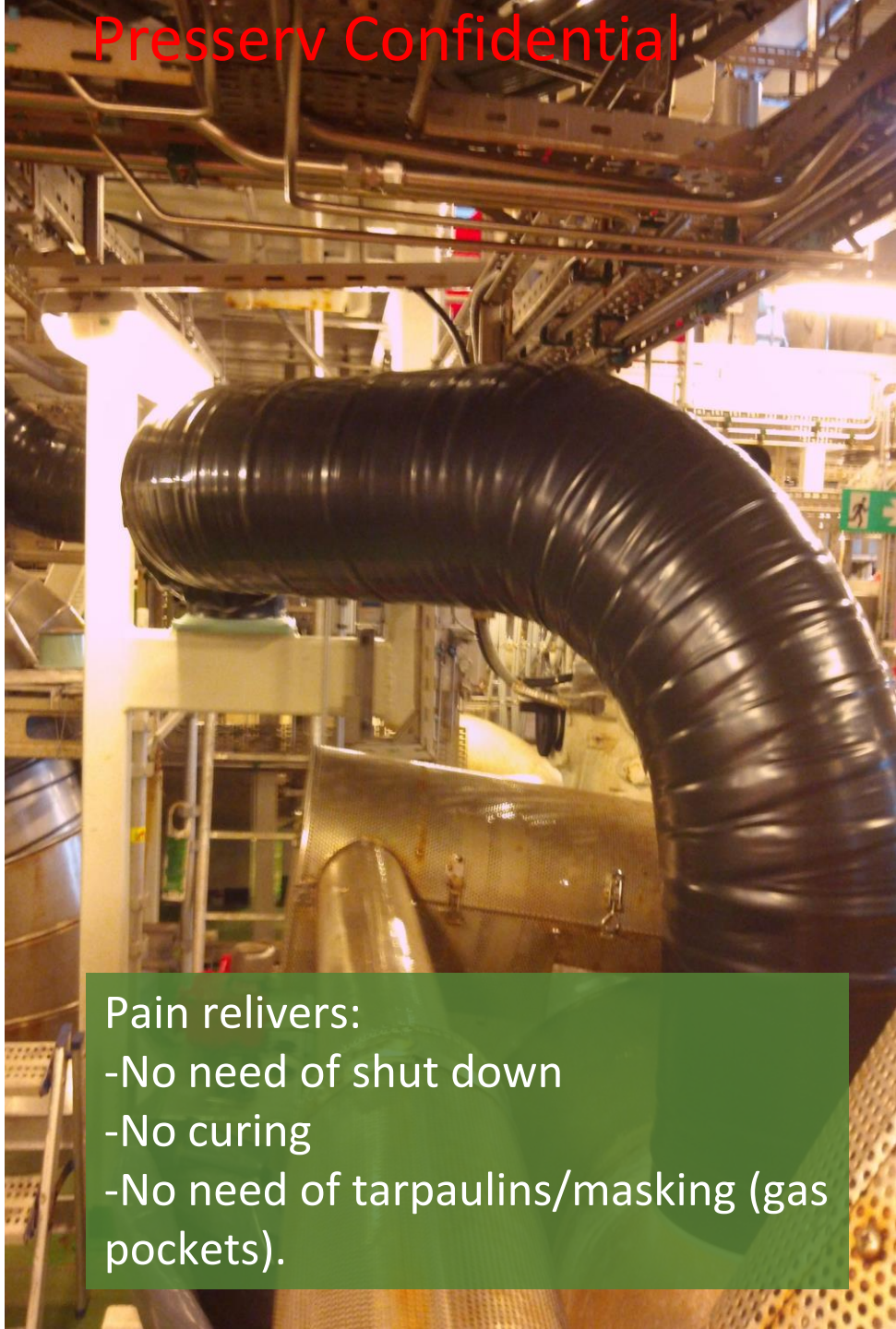
TRL 2
- Technology concept and/or application formulated

TRL 1
- Basic principles observed and reported

Source: www.nasa.gov


2007
Introduction of Stopaq in Norway - Kårstø
2010
Various sales and projects.
2017
Systematization of field-test projects as part of TR qualification.
Start corrosion test at laboratory Equinor.
2020
Approved as corrosion protection in TR 3016
2020
Start testing Stopaq as insulation product.
2021
Approved as insulation product.
Class 3 and 5
2021
Contractor is required to consider Stopaq vs paint
2022
Automatized application on vertical objects.


Inn service application +95^{0}C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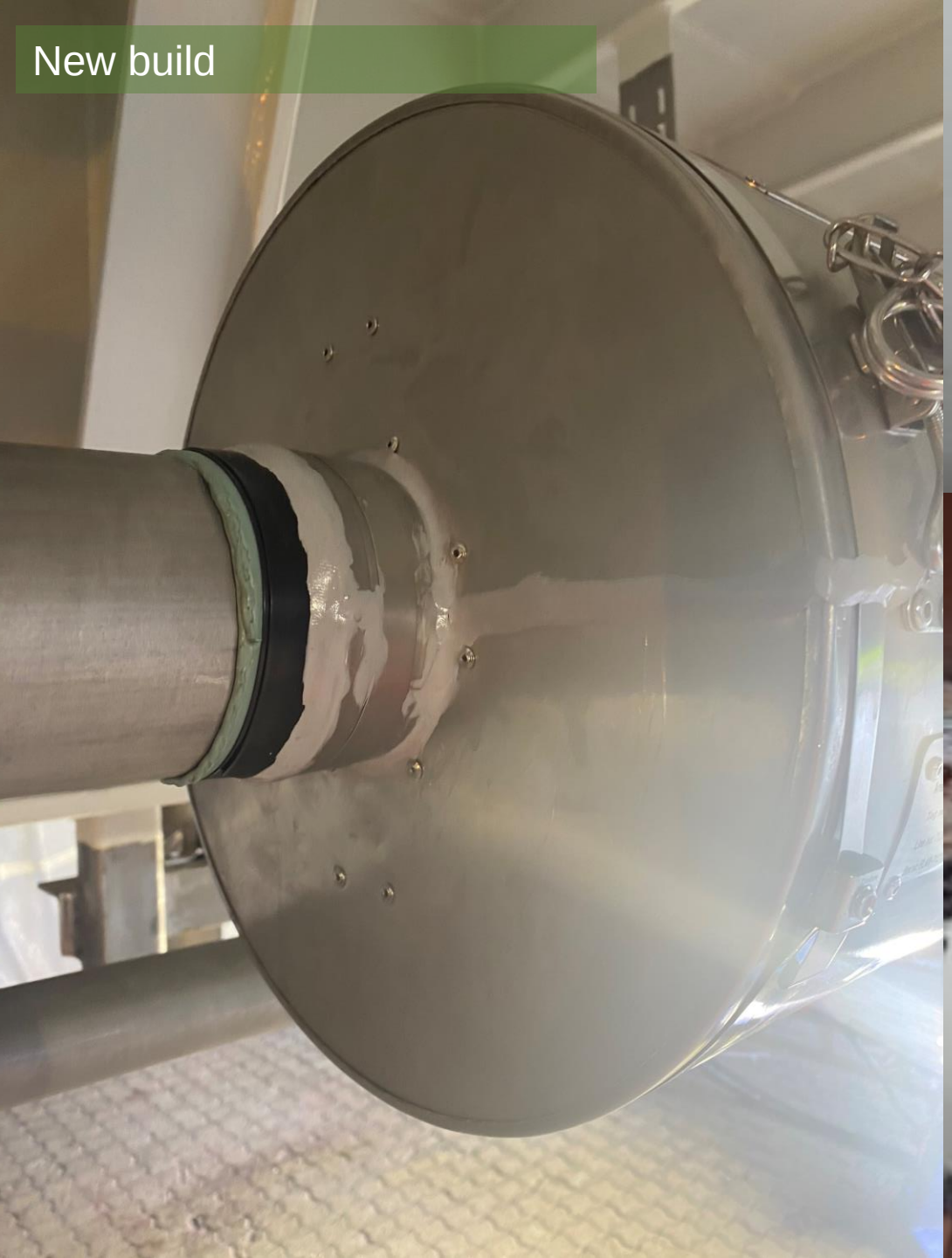
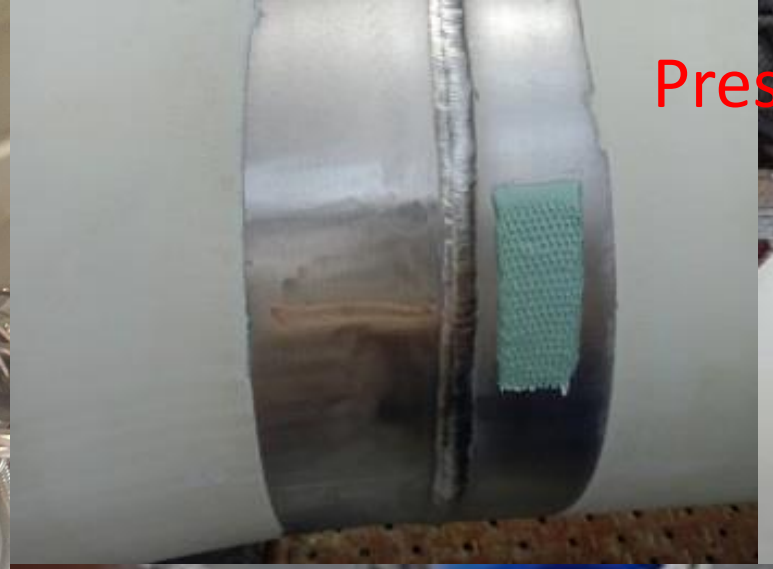
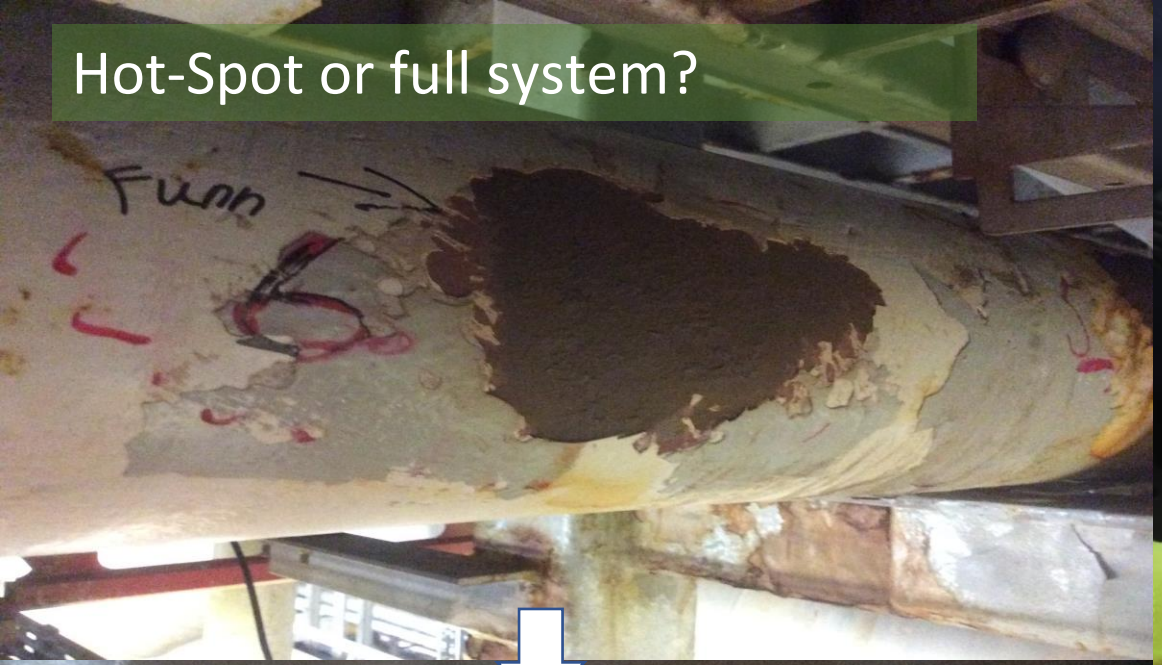
Pain relivers:
-No need of shut down
-No curing
-No need of tarpaulins/masking (gas pockets).





Gain Creators:
-Efficient application
-Easy to apply with semi skilled crew


Hot-Spot or full system?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Pain Relievers
-Client to choose level of maintenance
-No need of abrasive blasting

Condensing lines (CL).

Pain Relievers:

-No need of shut down.

-Less waiting time due to wrong dew point limit.

Client chooses Stopaq CL from 0700-0900.
CZ the rest of the day.

-No “risky” curing process of coating.

-No flash-rust after garnet blasting.

= No risk of re-work.

Renewables

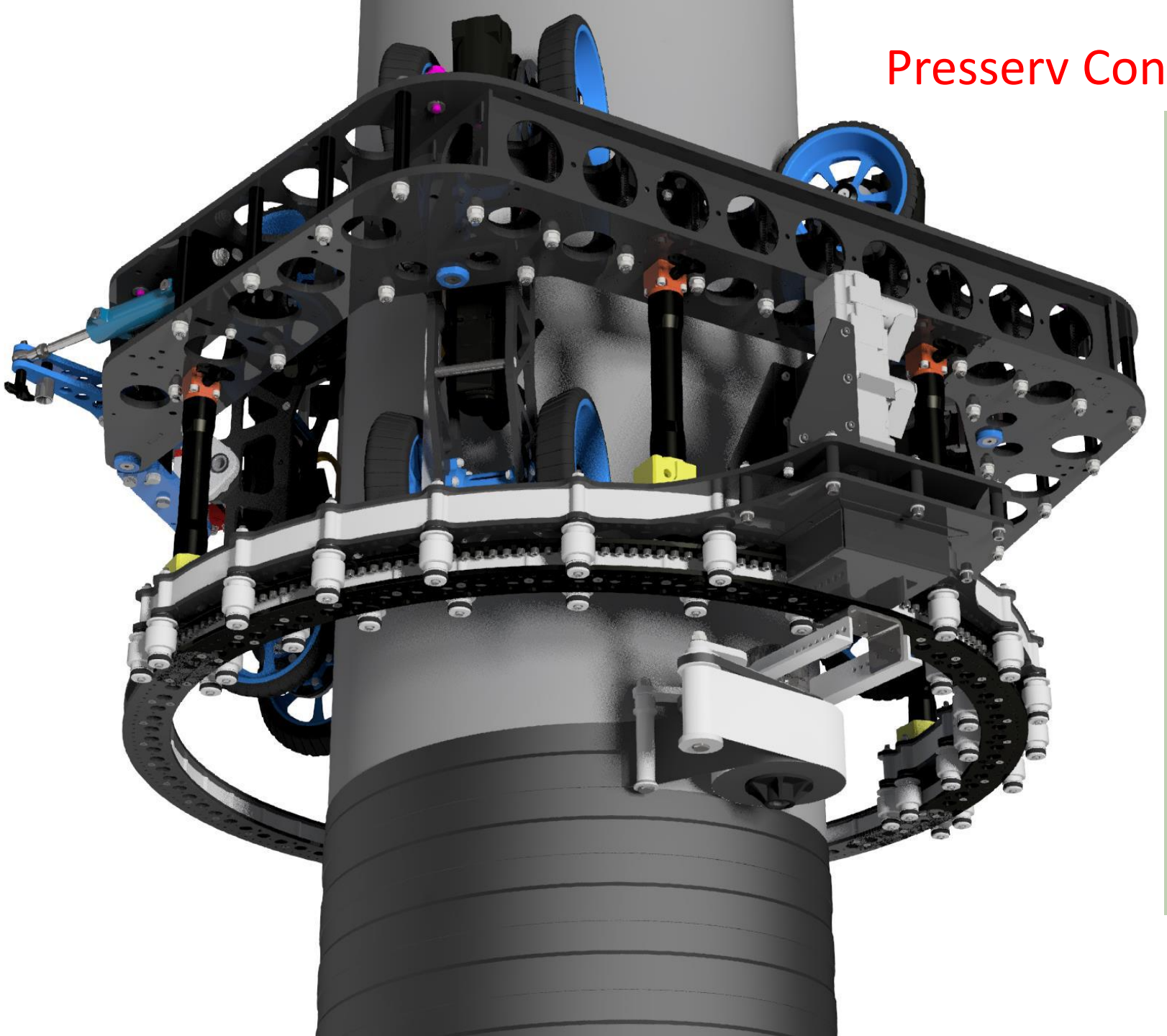
STOPAQ cures bolt corrosion on wind towers

Projects.

UHP (2000bar) Robot from Brage is now at version 5.0 at Sleipner.

Conformance with zero waste regulations and risk of droppage to sea/land

Futured plans for version 6.0 and commodity accessibility.



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Initial draft of vertical automated application robot.
“Snap-on” application tool.

Planed in operation April 2022.

First Innovation goal is application of PVC.

Second Innovation goal is application of CZ and PVC simultaneously.

Units will be available for rental and purchasing.

Presserv/Remotion/Beerenberg/Equinor

sealforlife.com

Corrosion Prevetion Under and Over Insulation

Front End Engineering

SEALFORLIFE Industries

Key causes of CUI

Environmental impact

- Temperature change – hot / cold, condensation formation
- High humidity
- Rainfall
- Fire fighting system tests (sea water in offshore)
- Pressure relief valves overspray / steam

Functional impact

- Poor sealing of cladding
- Poor sealing of insulation
- Damage of insulation due to foot traffic
- Corrosion of cladding (electrochemical)

Wet insulation provides no thermal insulation, leading to excess use of heat trace and creation of steam. Imagine a constant climate chamber

SEALFORLIFE Industries

Key causes of CUI

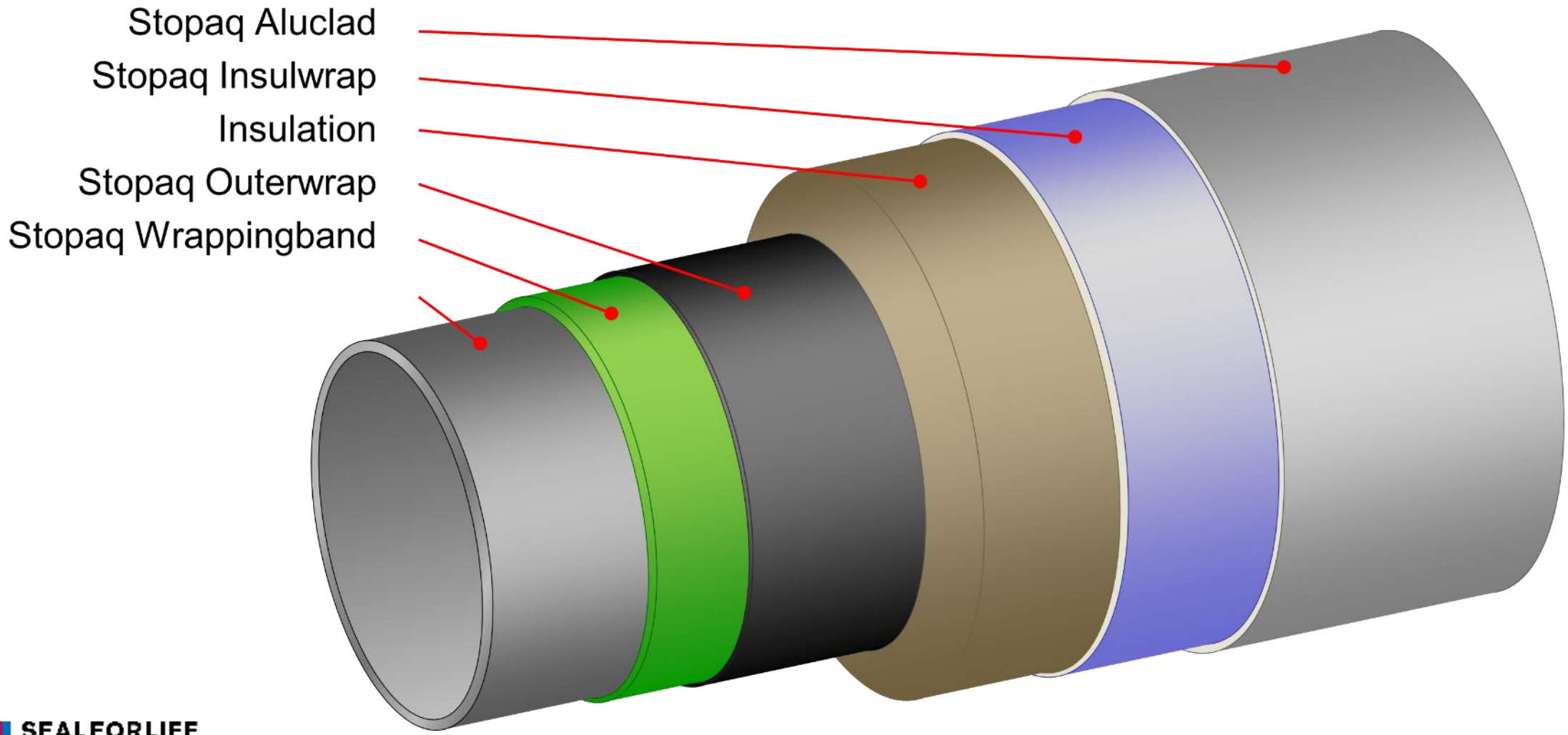
As much as 30 – 60% of total blasting and painting man-hours over the course of two to three year module build can be devoted to addressing coating defects

- Poor dry film thickness
- Poor constancy in layer coverage
- Assembly related damage
- Delays due to whether
- Not meeting coating standards
- Temperature fluctuations
- Surface temperature retarding or accelerating curing
- Accessibility constraints, poor surface preparation
- Environmental contaminants, salts

HOW TO INSPECT??

SEALFORLIFE Industries

Stopaq FEED – Front End Engineering Design



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- Limited access
- No space for tools
- Dust free surface preparation requirement
- Waste management
- No shut down

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ONE COMPANY INNOVATIVE TECHNOLOGIES ULTIM

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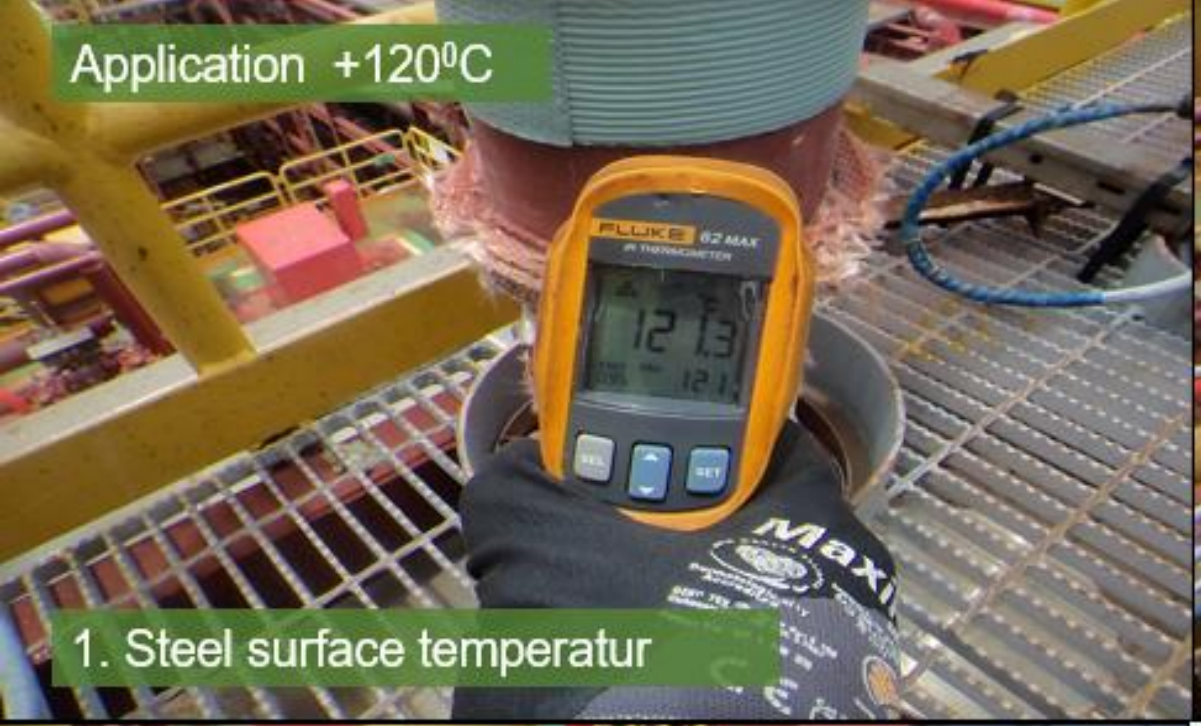

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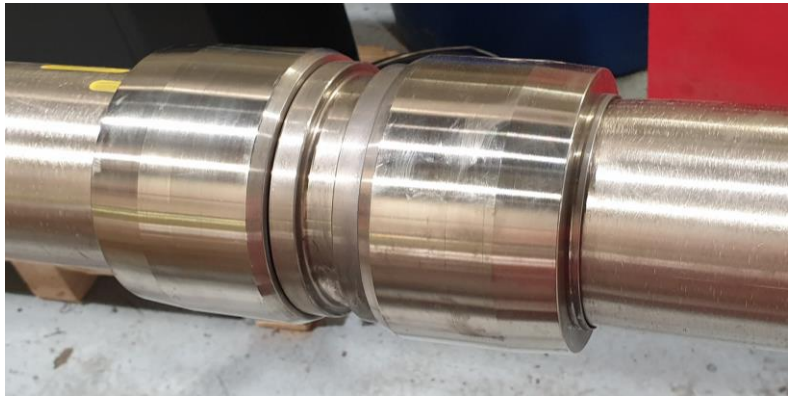

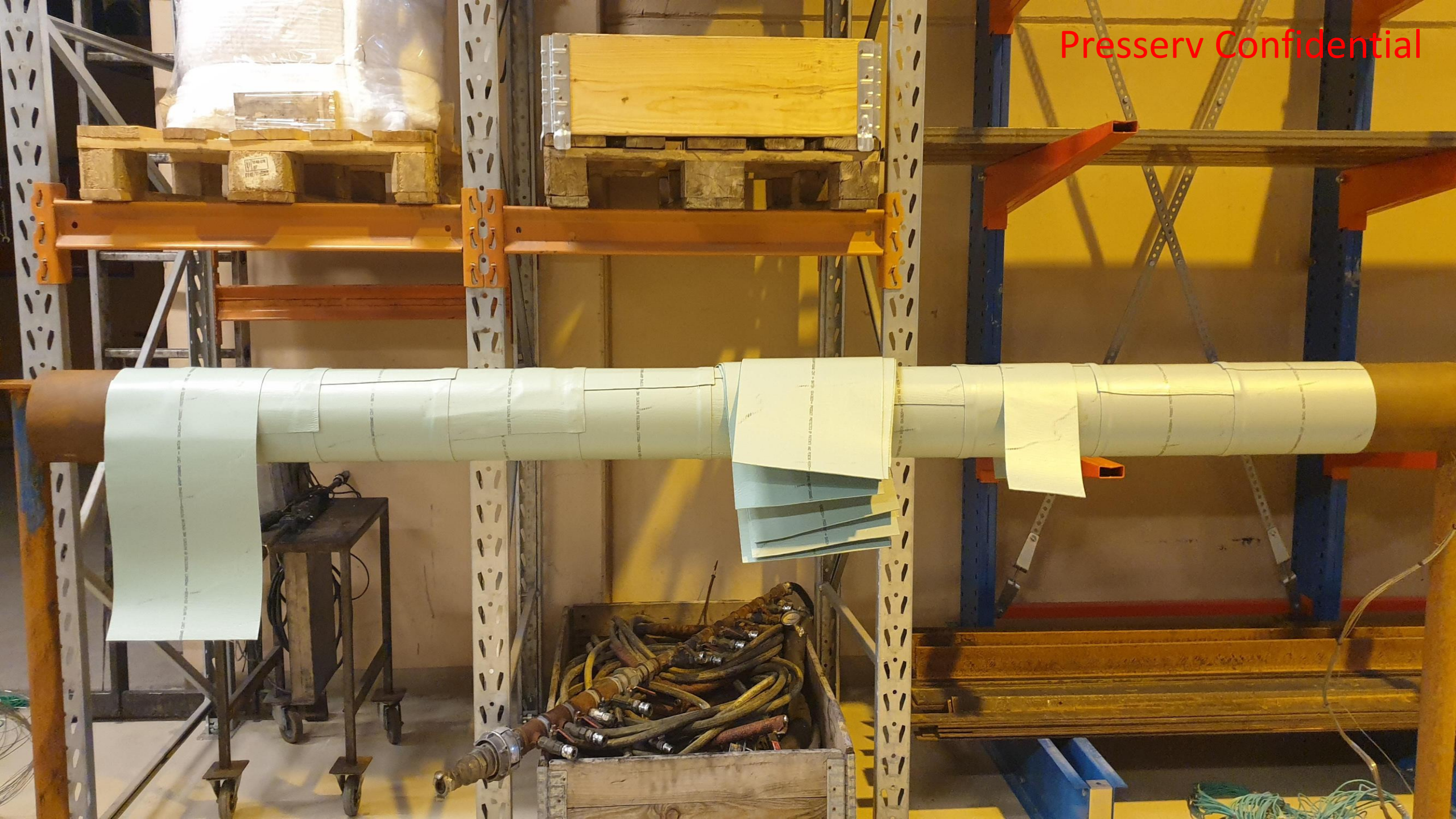
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