

Quality assurance of coatings for

- Aluminium
- Steel
- Galvanized Steel

Focus: Outdoor applications in architecture and industry



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Percentage of value addition from
coating to a completed facade

=

Low single-digit percentage

A large, faint, light gray illustration of a balance scale, symbolizing justice or weighing costs. The scale is tilted, with the right pan being lower than the left pan.

But:

High costs in case of quality defects & lawsuits can stretch out over many years

Worst Case: A complete facade has to be removed and recoated.



Aluminum facade without
sufficient pretreatment

➔ Delamination



Source: fem Forschungsinstitut Edelmetalle + Metallchemie

We ensure that architects and contractors receive perfectly coated products for their projects.





Unique: Full coverage of the process chain



HAMBURGISCHE STAATSOOPER
WERKSTÄTTEN





Source: fern Forschungsinstitut Edelmetalle + Metallchemie



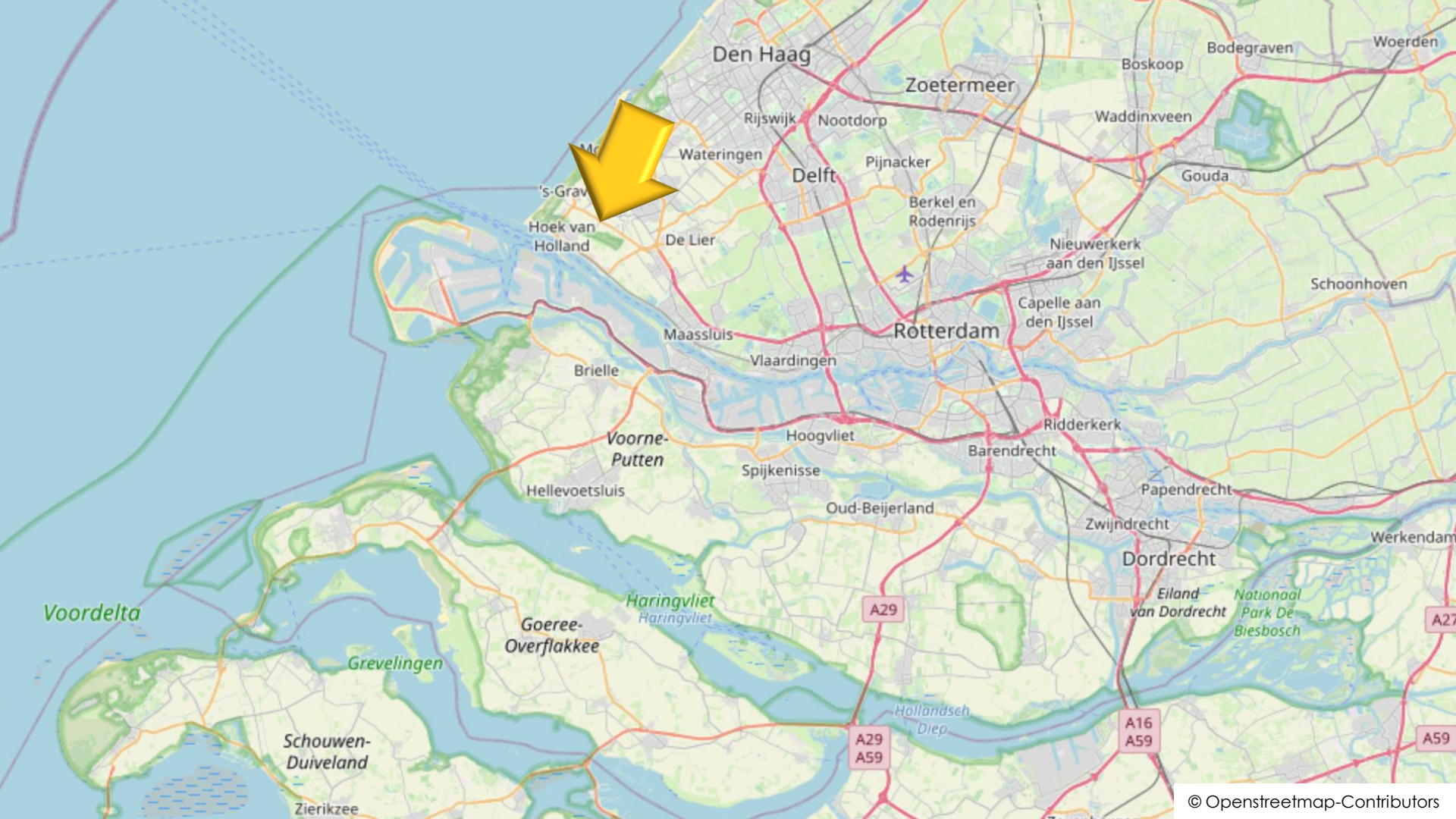
Outdoor weathering in Hoek van Holland
➔ Combination of sea & industrial climate
Worldwide unique: 3, 5 & 10 years outdoor weathering for the approval of pretreatment chemicals



Source: fern Forschungsinstitut Edelmetalle + Metallchemie



Fact check: Good pretreatment ensures ideal adhesion of the powder or liquid coating to the substrate and therefore provides very good corrosion protection.



Reference



After 12 month in Florida



Stricter requirements



GSB
INTERNATIONAL

Approved
Coating Material
Aluminium

Florida 5



GSB
INTERNATIONAL

Approved
Coating Material
Aluminium

Florida 3



GSB
INTERNATIONAL

Approved
Coating Material
Aluminium

Florida 1



Processes for first-time approvals underway

NEW!!!



NEW!!!

$\geq 50\%$ residual gloss after 10 years in Florida



Source: Hillebrand Coating

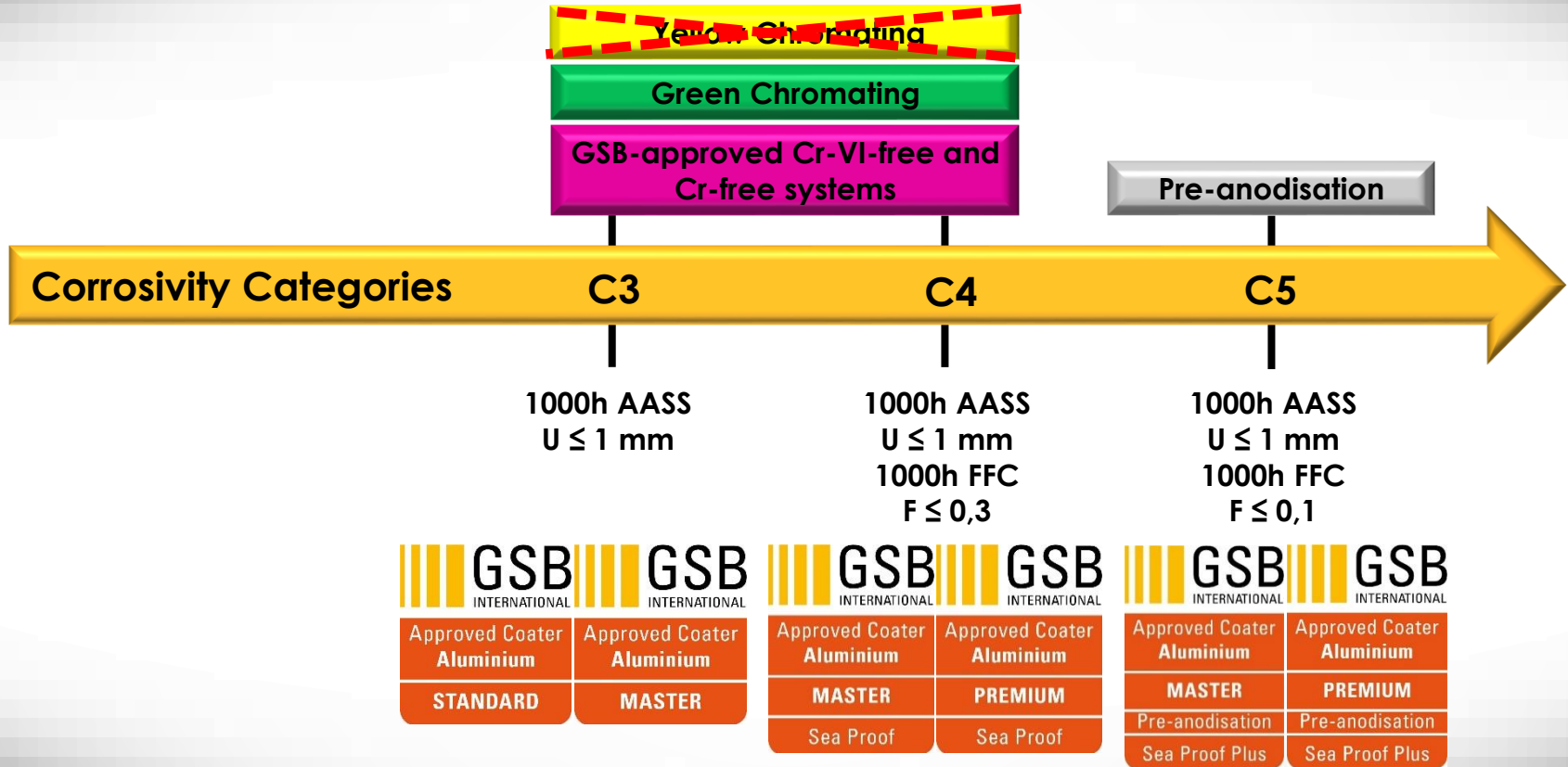


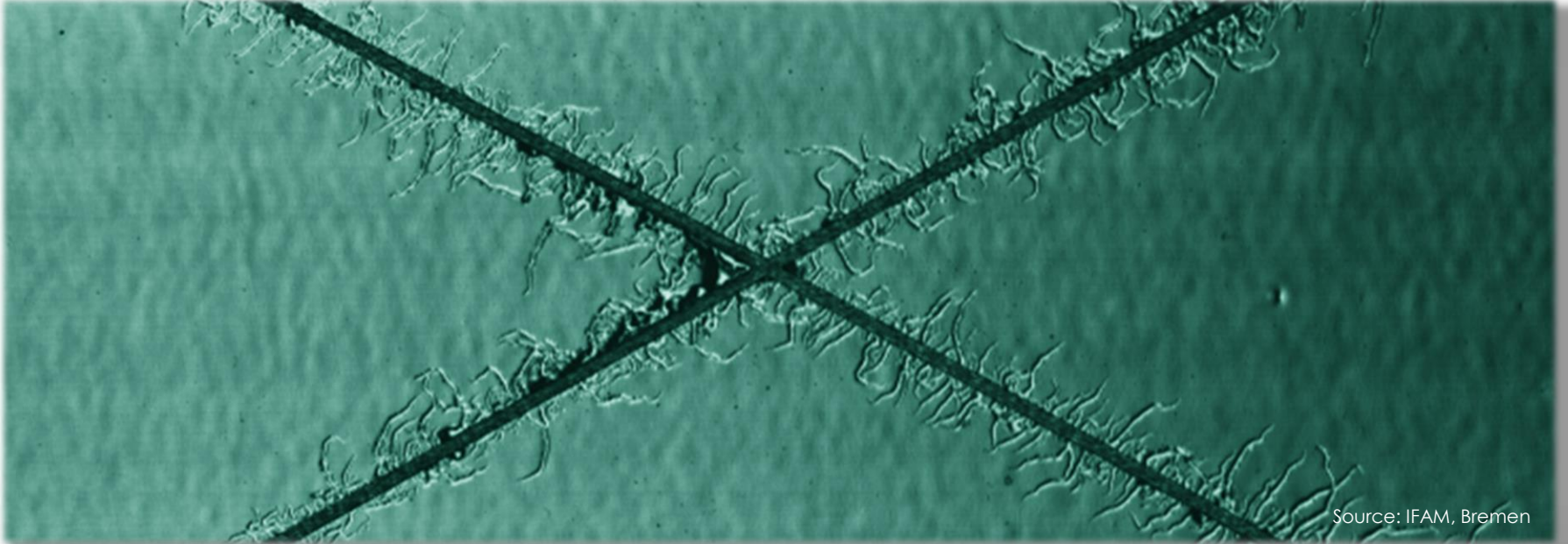
Two unannounced and independent monitoring tests per year

To be tested:
Coating equipment
Laboratory equipment
Factory production control (FPC)
Coated components
Corrosion tests

Permanent focus on self-monitoring

Performance of Surface Pretreatment





Source: IFAM, Bremen



- Resources that would have to be used to repair quality defects can be used more effectively elsewhere.
- High durability of coatings contributes to the sustainable use of metals in windows and facades.



- **EN 1090**
 - Execution of steel structures and aluminium structures

- **EN 16759**
 - Bonded Glazing for doors, windows and curtain walling - Verification of mechanical performance of bonding on aluminium and steel surfaces

- **ZTV-ING**
 - Additional technical contract conditions and guidelines for steel and aluminium constructions

- **DBS 918 340**
 - Deutsche Bahn Standard (Technical delivery conditions)
 - Powder Coating for external and internal parts of rail vehicles





<https://gsb-international.de/>