LESSONS LEARNED FROM LITIGIOUS PROJECTS

PFPNET ONE-DAY TECHNICAL EVENT FOR FIREPROOFING/PFP/CSP

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AGENDA

- Why PFP failures matter
- Common PFP failures
- Key lessons learned

WHY PFP FAILURES MATTER

High Stakes of Failure

- Safety risks
- Project delays
- Financial losses
- Lawsuits and liability

Your Role In PFP Failures

Proper application and awareness prevent failures!

- Proper surface preparation
- Following PFP manufacturer guidelines
- Inspection
- Protecting your work

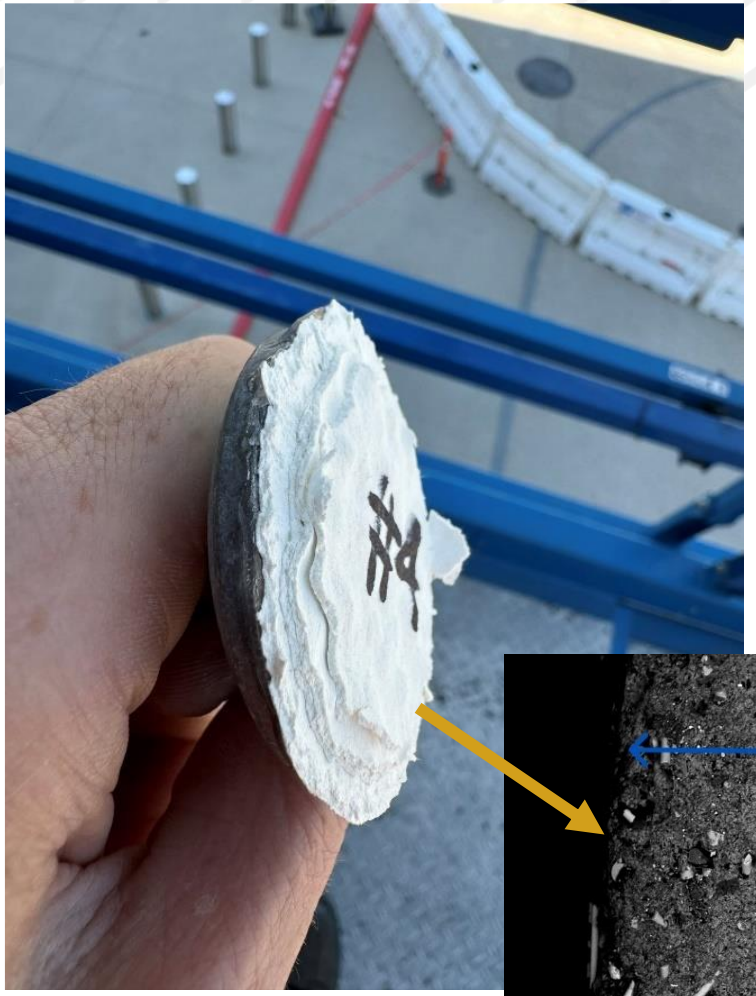
Poor adhesion and delamination

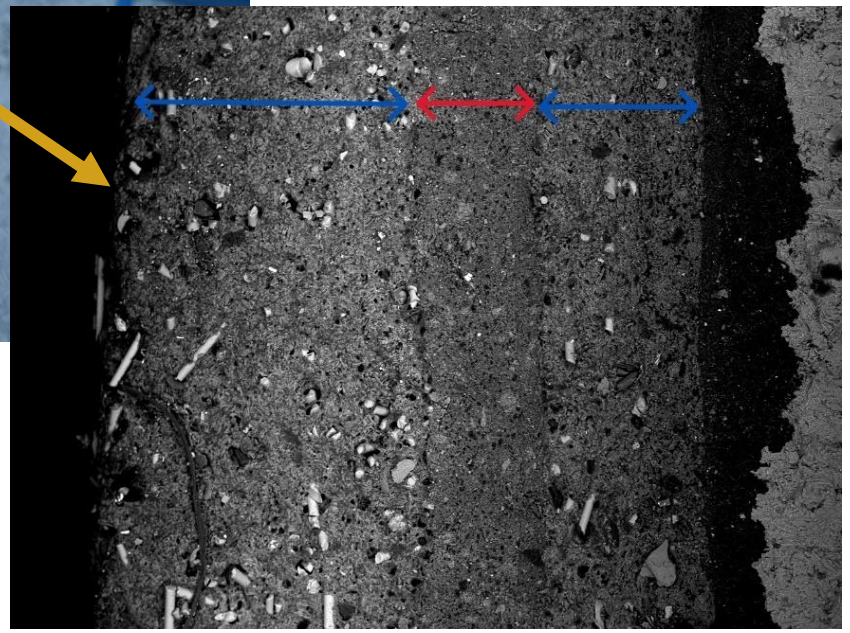
- What it looks like:
  - Peeling from the surface (adhesion) or between layers of fireproofing (cohesion)
- How it happens:
  - Surface contamination
    - Dust, oil, or rust present leads to poor adhesion
  - Improper surface roughness
  - Incompatible materials
  - Application over uncured layer

COMMON PFP FAILURES

Thickness issues and improper mixing

- What it looks like:
  - Too thin -> no protection
  - Too thick -> cracking or sagging
- How it happens:
  - Inconsistent application technique
  - Not measuring thickness between applications
  - Not following manufacturer specifications



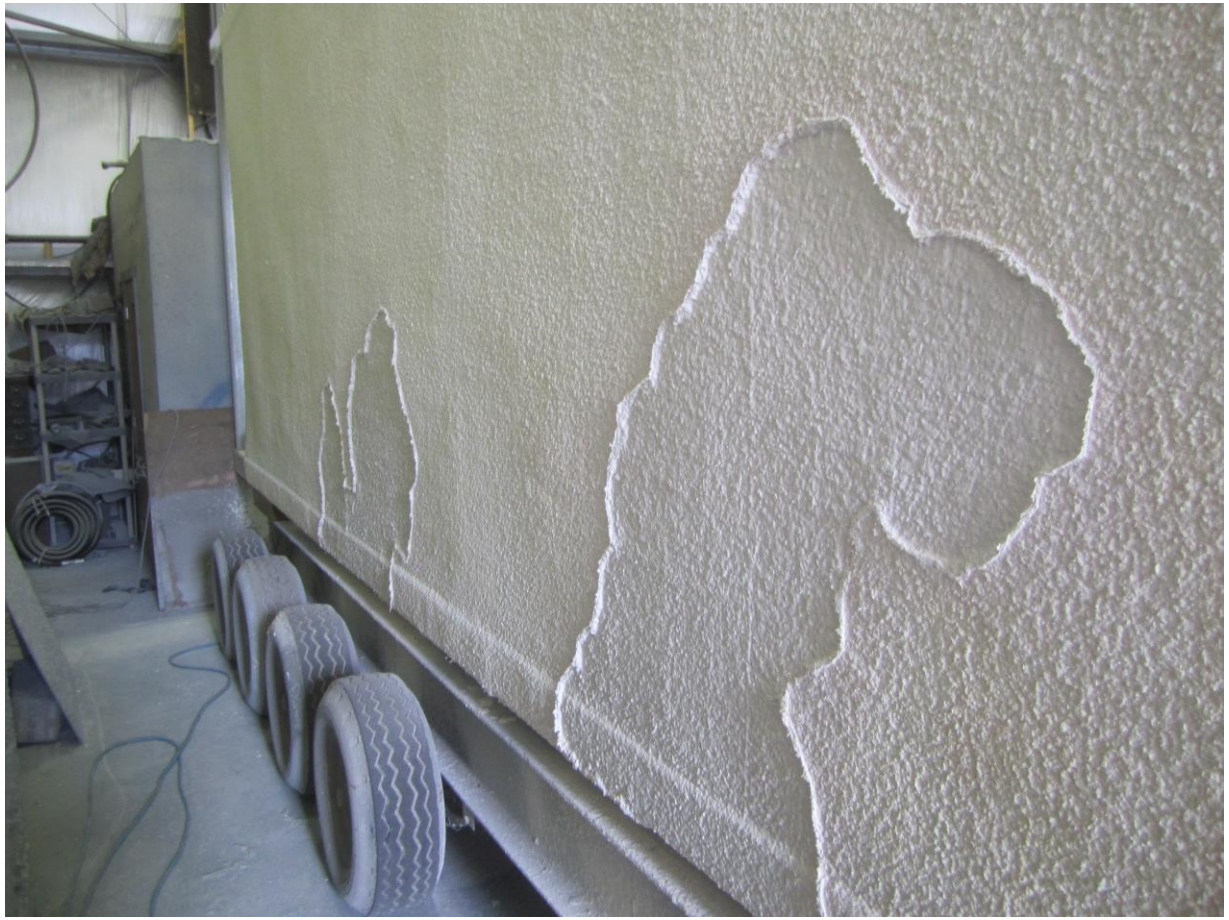


Material incompatibility

- What it looks like:
  - Peeling/delamination
  - Coating discoloration
- How it happens:
  - Incompatible materials
    - Substrate, primer, rust inhibitors

Application in bad conditions

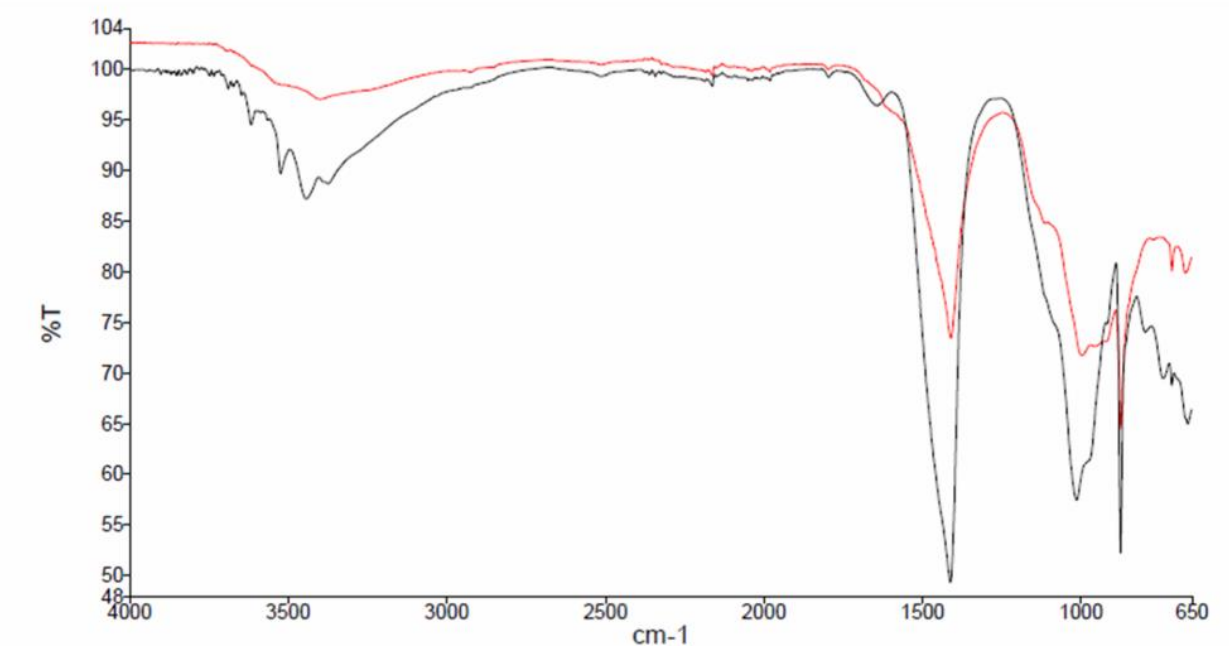
- What it looks like:
  - Blistering or bubbling
  - Coating not curing properly
  - Coating flaking or powdering off
- How it happens:
  - Applied in extreme temperatures or humidity
  - Rapid temperature changes during curing
  - Poor ventilation



Typical Investigation Equipment

- FTIR (Fourier Transform Infrared Spectroscopy)
- SEM-EDS (Scanning Electron Microscopy - Energy Dispersive X-ray Spectroscopy)
- XRD (X-ray diffraction)
- Mass spectrometry
- Reflected-light stereomicroscope
- Transmitted-light polarizing microscope

- 3 samples, not 1!



How to protect your work

- Follow manufacturer specifications
- Field inspections for QA/QC
- Document everything (and ask a lot of questions)
  - Photos
  - Material batches
  - Surface preparation
  - Environmental conditions during application
  - Inspection logs – including who…
- What's in the water?
- Fungicide?
- Report issues immediately

Final takeaways

- PFP failures are costly and dangerous
- Proper application and inspection prevents issues down the road
- Documentation protects you and your team
- Unfortunately, our work in this arena is trending in the wrong direction…

And a request…

- Send info!