FIRE FINISH
CFP-SP WB
Troubleshooting Guide
## CONTENTS

### AESTHETIC/APPLICATION DEFECTS
- Wrinkling 3
- Slumping/sagging 3
- Dry spray 4
- Poor hangability 4
- Surges 5
- Cracks 5
- Pinholes 6
- Orange Peel 6
- Cratering (top coats only) 7
- Slow drying time 7
- Product not spraying or flowing 7
- Poor spray pattern/excessive overspray 8

### CRITICAL TO FIRE SAFETY DEFECTS
- Product not adhering to the substrate 8
- Efflorescence 8
- Blistering 9
- Delamination 9
- Frost damage of the wet coating 10
WRINKLING

What is it?
• A wrinkled texture on the surface of the product as it cures

Why is this happening?
• Applied WFT is higher than recommended
  • This leads to a ‘skinning’ effect, where the top layer dries before the material underneath has a chance to dry

How to fix it:
• Nothing required from a fire-safety perspective – no detrimental effect on fire performance
• If superior aesthetics are required: sand to smooth surface

SLUMPING/SAGGING

What is it?
• Product appears to ‘sag’ or ‘slump’ down
  • Often, beads of paint pool and run down the surface

Why is this happening?
• Applied WFT much higher than recommended
  • The product was thinned prior to use
  • Applicator stood too close to the structure during application

How to fix it:
• Nothing required from a fire-safety perspective – no detrimental effect on fire performance
• If superior aesthetics are required: sand to smooth surface

Notice:
• All repair MUST ensure that required DFT thicknesses are met as per UL requirements
• Instructions above are general guidelines – always refer to the applicable listing in the UL Fire Resistance Directory or Hilti Firestop Systems Guide for complete installation information
DRY SPRAY

What is it?
• Poor atomization of intumescent material

Why is this happening?
• Applicator stood too far from structure during application
• Application temperature too high

How to fix it:
• Nothing required from a fire-safety perspective – no detrimental effect on fire performance
• Ensure you are at a correct spraying distance from the surface, and within product spray parameters
• If superior aesthetics are required: sand to smooth surface

POOR HANGABILITY

What is it?
• You are getting lower than expected wet film thicknesses

Why is this happening?
• Condensation / moisture on the steel surface
• Thinned product used
• Residual water in the spray pump

How to fix it:
• Nothing required from a fire-safety perspective – no detrimental effect on fire performance
• Let the intumescent coating dry completely
• If superior aesthetics are required: sand smooth

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SURGES

What is it?
• Intumescent material that sprays out from pump in a stream vs. an atomized spray fan

Why is this happening?
• Cavitation of the pump
• Short tip blockage by foreign matter

How to fix it:
• Cavitation: ensure sufficient level of intumescent in the pump feed
• No repairs required from a fire-safety perspective – no detrimental effect on fire performance
• If superior aesthetics are required: sand to smooth surface

CRACKS

What is it?
• Physical cracks running through surface of material

Why is this happening?
• Higher than recommended WFT, high air flow, low humidity

How to fix it:
• Application of a stripe coat can prevent crack formation if conditions exist that favor crack formation
• For hairline cracks – No repairs required from a fire-safety perspective – no detrimental effect on fire performance
• All other cracks/gaps must be filled
• If superior aesthetics are required, apply a brush coat of material on top of the crack

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PINHOLES

What is it?
• Minor pinholes/craters in surface of product

Why is this happening?
• Poor atomization
• Air entrapment

How to fix it:
• Check pump settings to ensure parameters are within product requirements
• Check tip for signs of wear, and when in doubt – change it
• No repairs required from a fire-safety perspective – no detrimental effect on fire performance
• If superior aesthetics are required: sand to smooth surface

ORANGE PEEL

What is it?
• Rough textured appearance, similar to the peel of an orange, on the surface of the product

Why is this happening?
• Normal appearance for high build coatings
• High WFT have a propensity to orange peel
• High gloss top coat exacerbates the appearance

How to fix it:
• No repairs required from a fire-safety perspective – no detrimental effect on fire performance
• If superior aesthetics are required: sand to smooth surface

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CRATERING (TOP COATS ONLY)

What is it?
• Pock-marked top coat

Why is this happening?
• Defect in the top coat caused by foreign matter
• Frequently observed with polyurethane and silicone top coats
• NOT a problem of the intumescent

How to fix it:
• Ensure that top coat is properly mixed. When in doubt, filter the top coat
• Contact your topcoat manufacturer for continued issues
• No repairs required from a fire-safety perspective – no detrimental effect on fire performance
• If superior aesthetics are required: smooth top coat and re-apply a thin layer

SLOW DRYING TIME

What is it?
• Product does not dry at expected rates

Why is this happening?
• Temperature and humidity level outside specification
• Low air flow/air exchange
• Fire Film applied too thick per coat
• Thinned product used
• Additional coats of Fire Film applied too soon
• Top coat applied too soon

How to fix it:
• Ensure application conditions are within the Fire Finish application guidelines

PRODUCT NOT SPRAYING OR FLOWING

Why is this happening?
• Equipment may not have been cleaned
• Product too cold
• Shelf life of product expired
• Lid left off container for too long
• Material not adequately stirred prior to use

How to fix it:
• Check equipment: tips, pressure, blockages, hose diameter/length
• Ensure application conditions are within the Fire Finish application guidelines

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POOR SPRAY PATTERN / EXCESSIVE OVERSPRAY

Why is this happening?
- Wrong tip size or fan
- Worn tip
- Pressure from pump is too high/too low

How to fix it:
- Ensure application conditions are within the Fire Finish application guidelines

PRODUCT NOT ADHERING TO THE SUBSTRATE

What is it?
- The spray product does not adhere to the substrate – slides off during the initial spraying/drying process

Why is this happening?
- The primer may not be compatible, or the product was applied outside of the specified recoat window (of its primer)
- Contamination of substrate (oil, grease, ...)

How to fix it:
- The Fire Finish product MUST be removed completely from the steel member
- Check primer compatibility
  - Remove incompatible primer
  - Re-blast steel and apply approved primer
- Remove contamination
  - De-grease, water jet, ...
- Re-apply Fire Finish as per UL requirements

EFFLORESCENCE

What is it?
- Looks like there is ‘salt formation’ on the surface of the material

Why is this happening?
- Entrapment of water-vapor
- Exposure to water or non-interior use conditions

Repair
- The Fire Finish product MUST be removed completely from the steel member and reapplied
  - No way to repair the material – fire performance has been compromised

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**BLISTERING**

**What is it?**
- Surface of the material seems to have ‘blisters’ on it

**Why is this happening?**
- Exposure to pooling/standing/running water

**Repair**
- The Fire Finish product MUST be removed completely from the steel member and reapplied
- No way to repair the material – fire performance has been compromised

**DELAMINATION**

**What is it?**
- Product delaminates off the steel structure after it is dry

**Why is this happening?**
- Product applied over incompatible surface or primer
- Contamination of substrate or product
- Moisture ingression over time

**Repair**
- The Fire Finish product and base Primer MUST be removed completely from the column and reapplied
- No way to repair the material – fire performance has been compromised
- Re-apply after blast cleaning and priming the steel with an approved primer
FROST DAMAGE OF THE WET COATING

What is it?
• Coagulated product that can not be stirred up

Why is this happening?
• The product has been frozen and subsequently thawed

How to fix it:
• DO NOT USE: Dispose of complete bucket

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