

Is a Filter Loading Qualification Test Needed

Presented by

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32 Nuclear Air Cleaning Conference

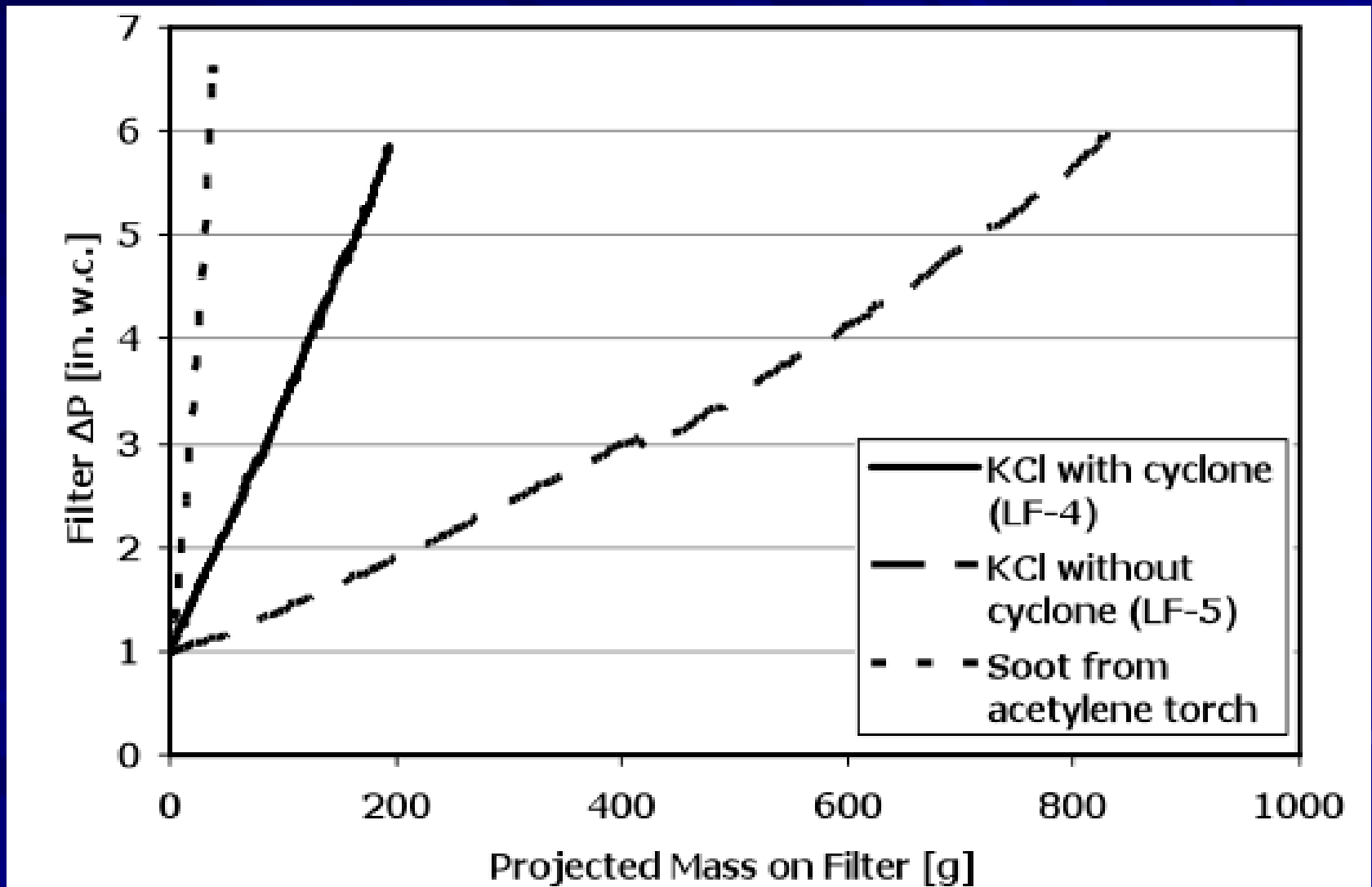
Denver, CO

AG-1 Filter Qualification

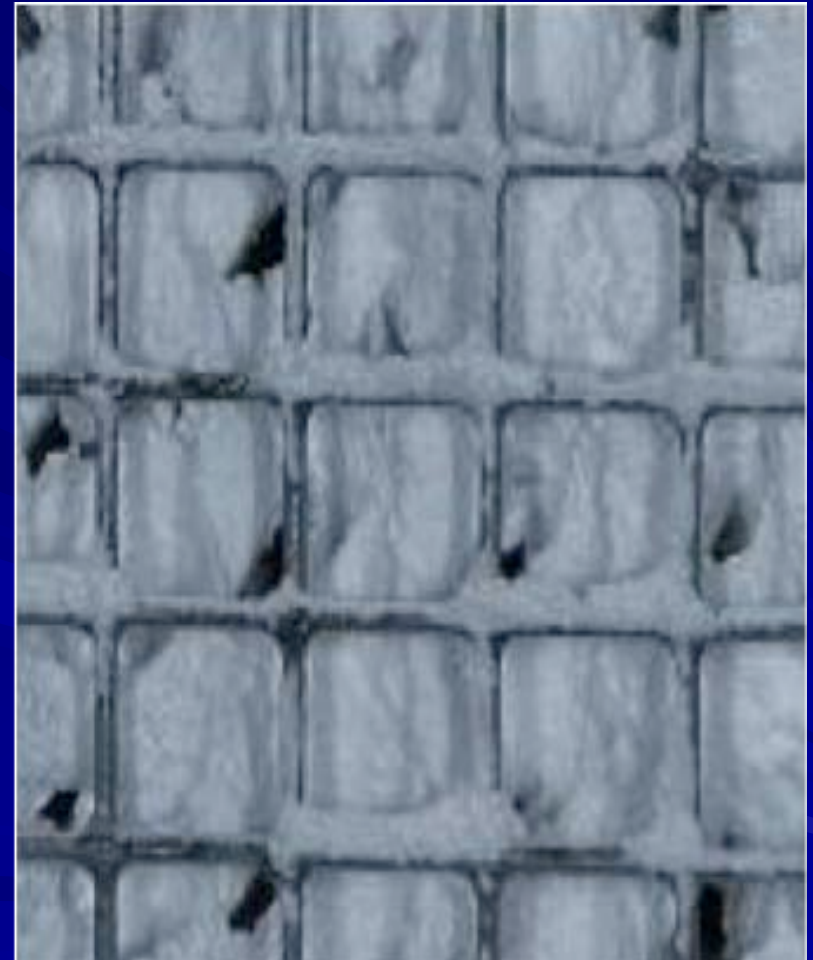
The Belt and Suspenders Approach to Assuring Quality by AG-1 is a Testament to the Wisdom of Founders

- Filtering Efficiency
- Resistance to Heated Air
- Spot Flame Test
- Rough Handling
- Resistance to Pressure Test

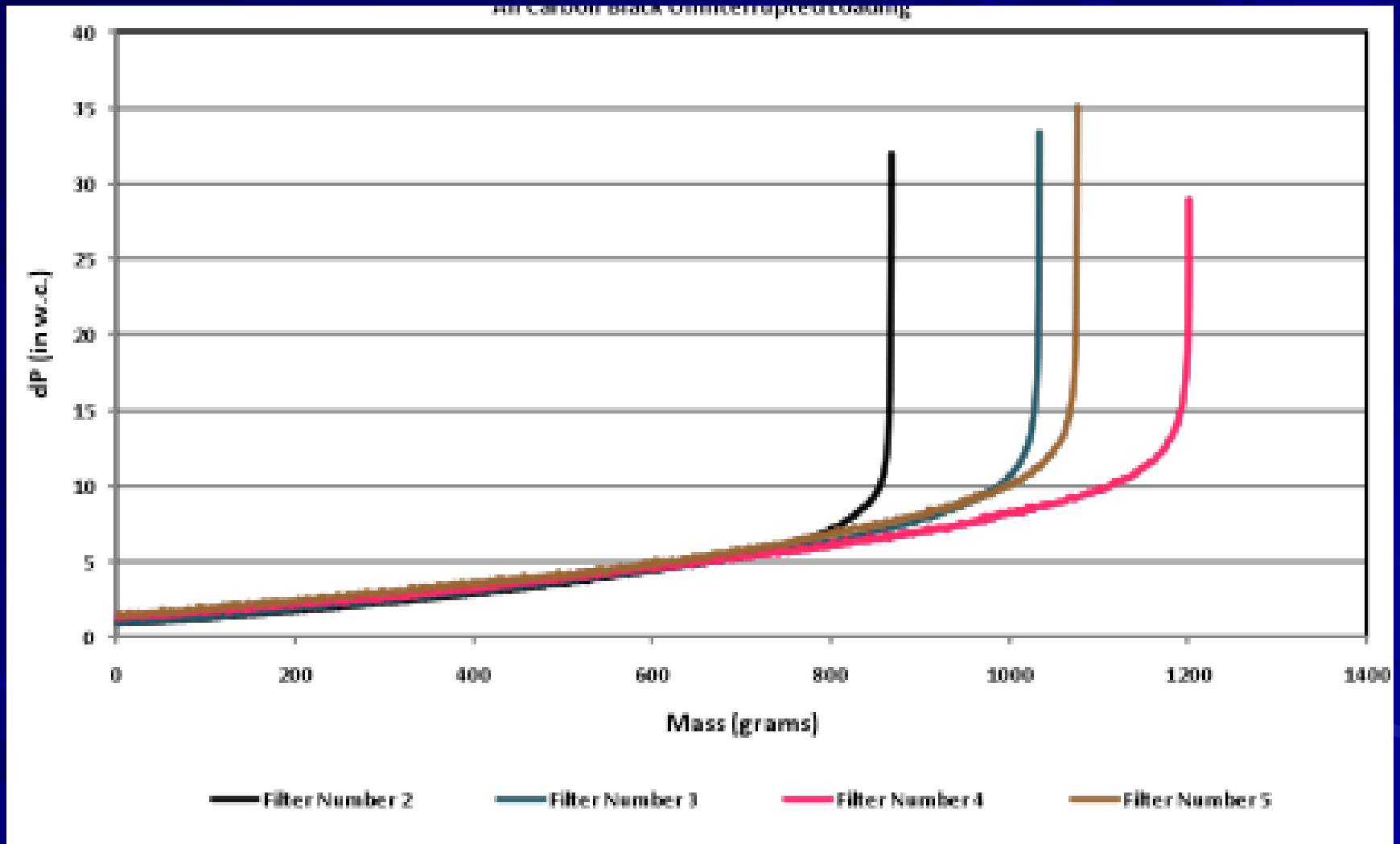
Effect of Particle Size



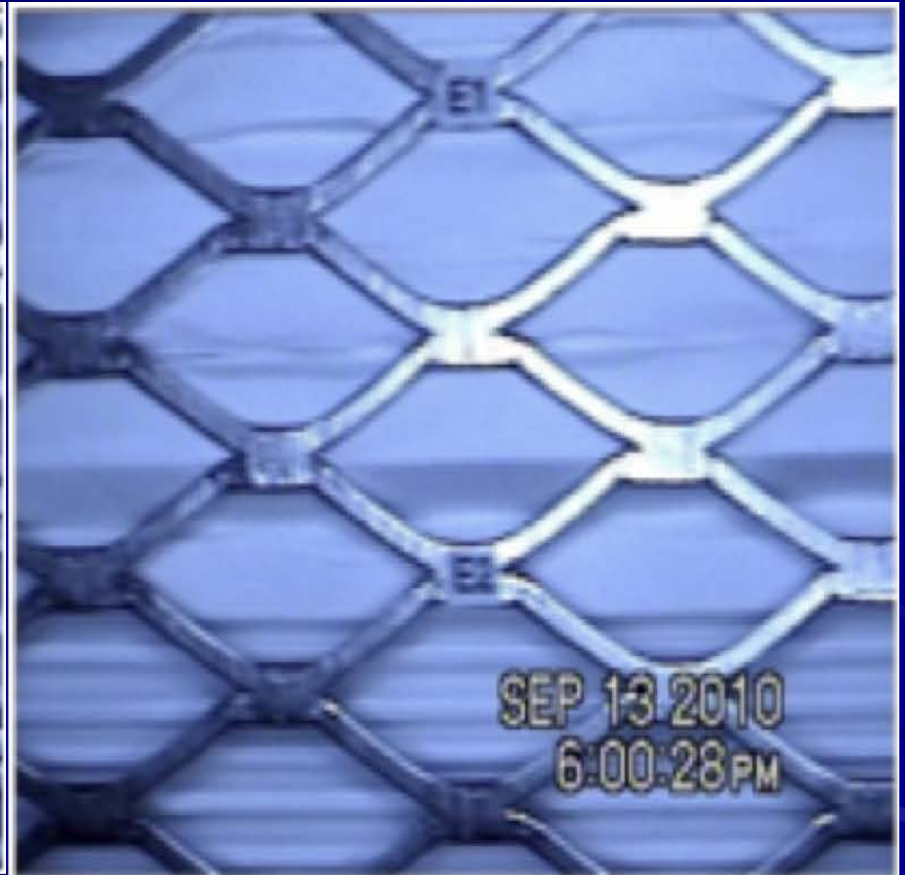
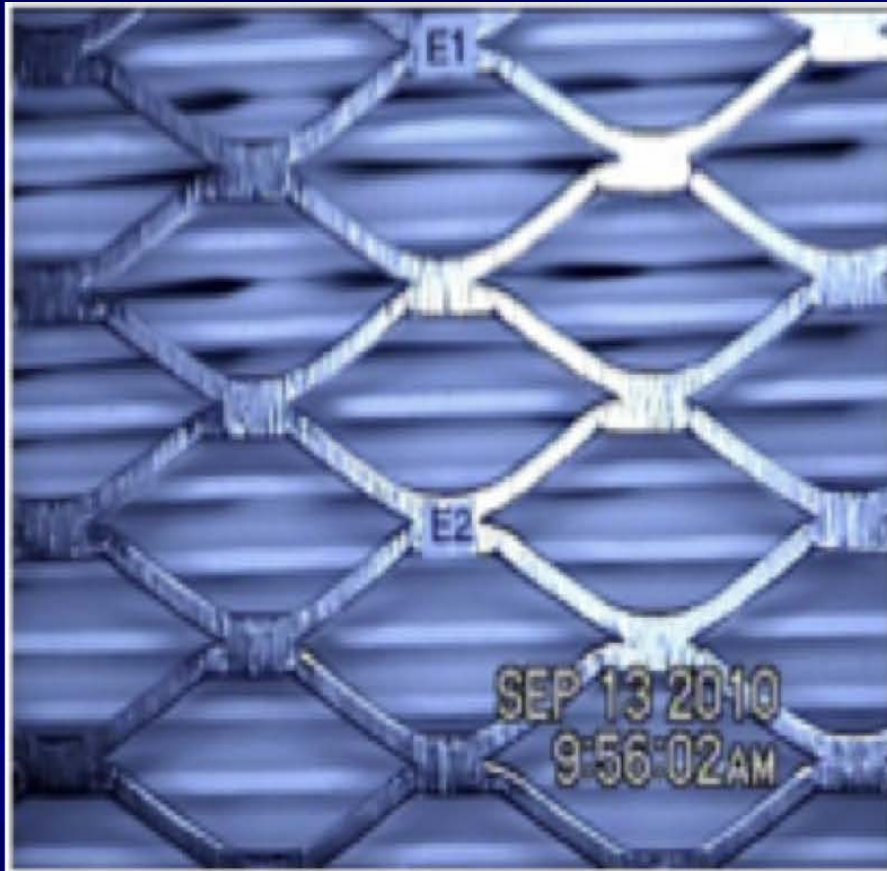
Loaded Filters



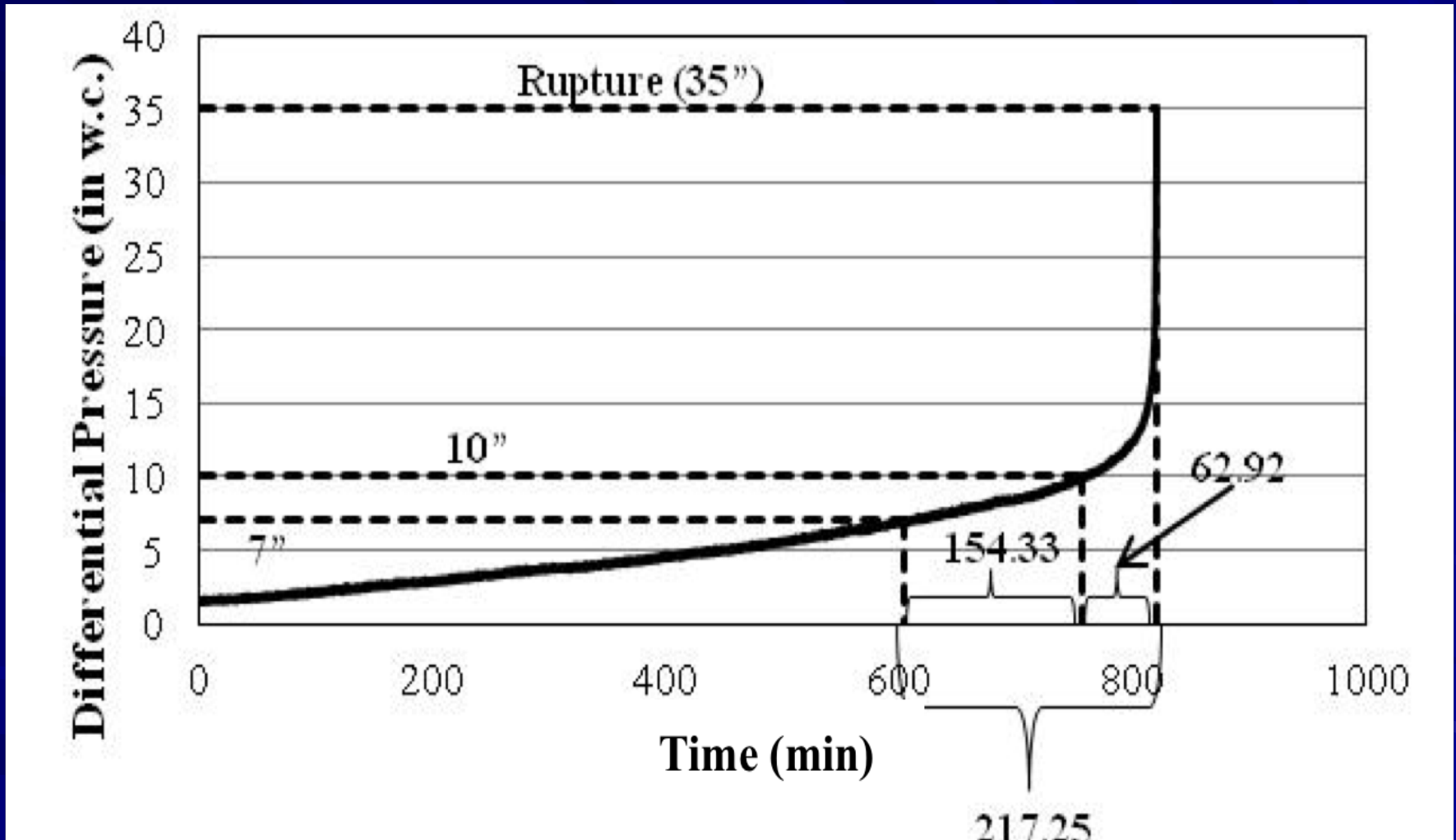
Lifetime Loading Curves



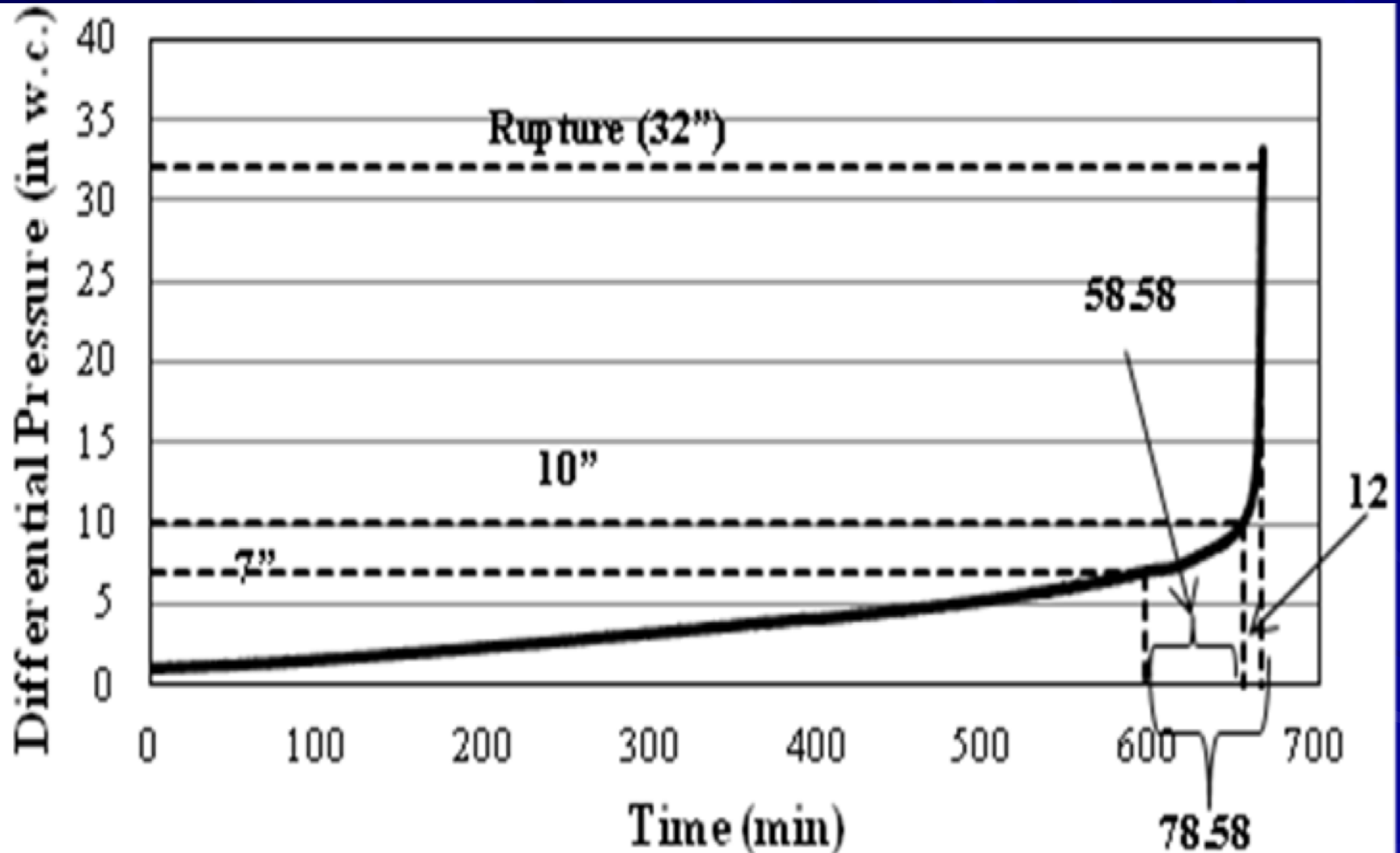
Pleat Ballooning



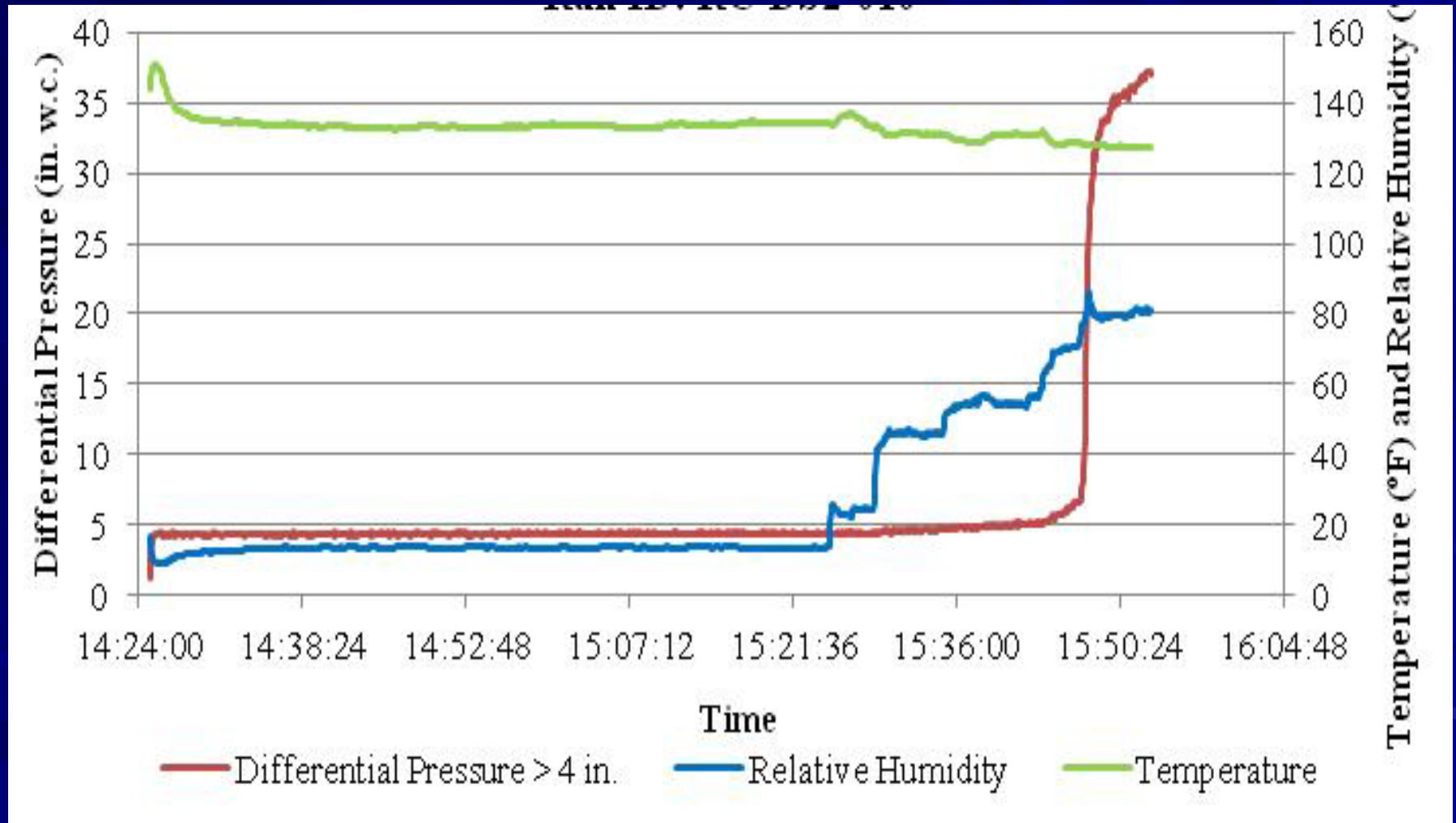
Time to Rupture



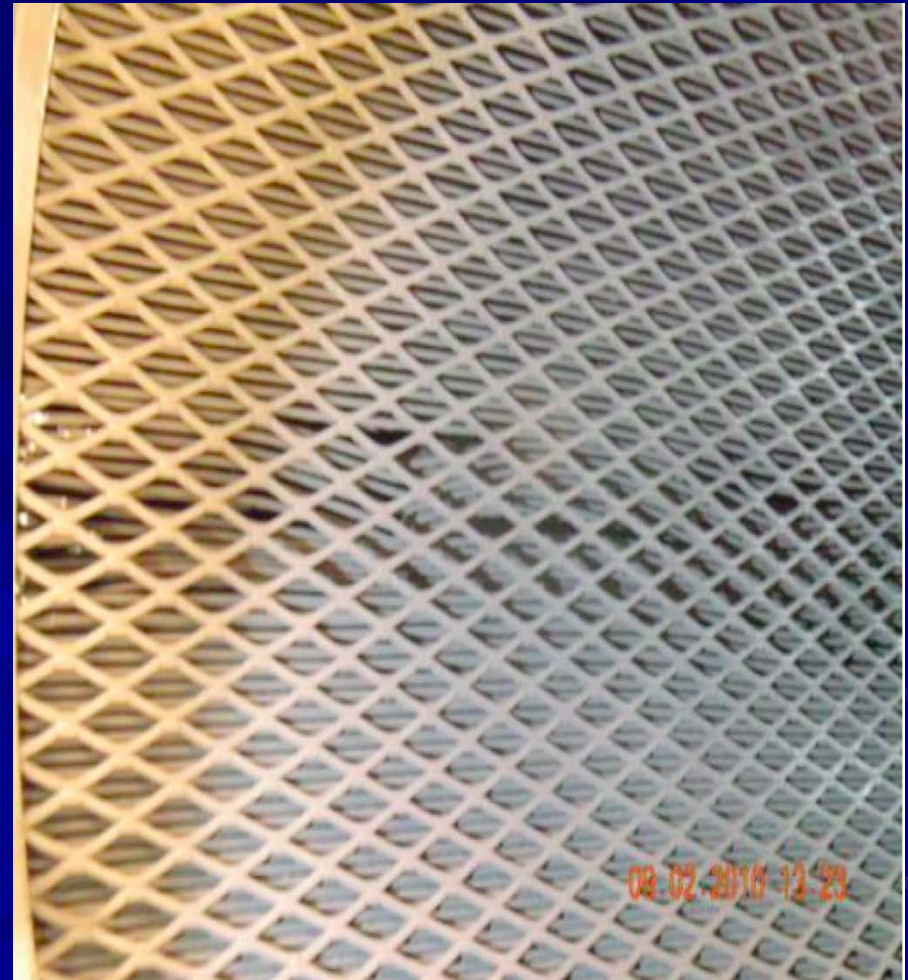
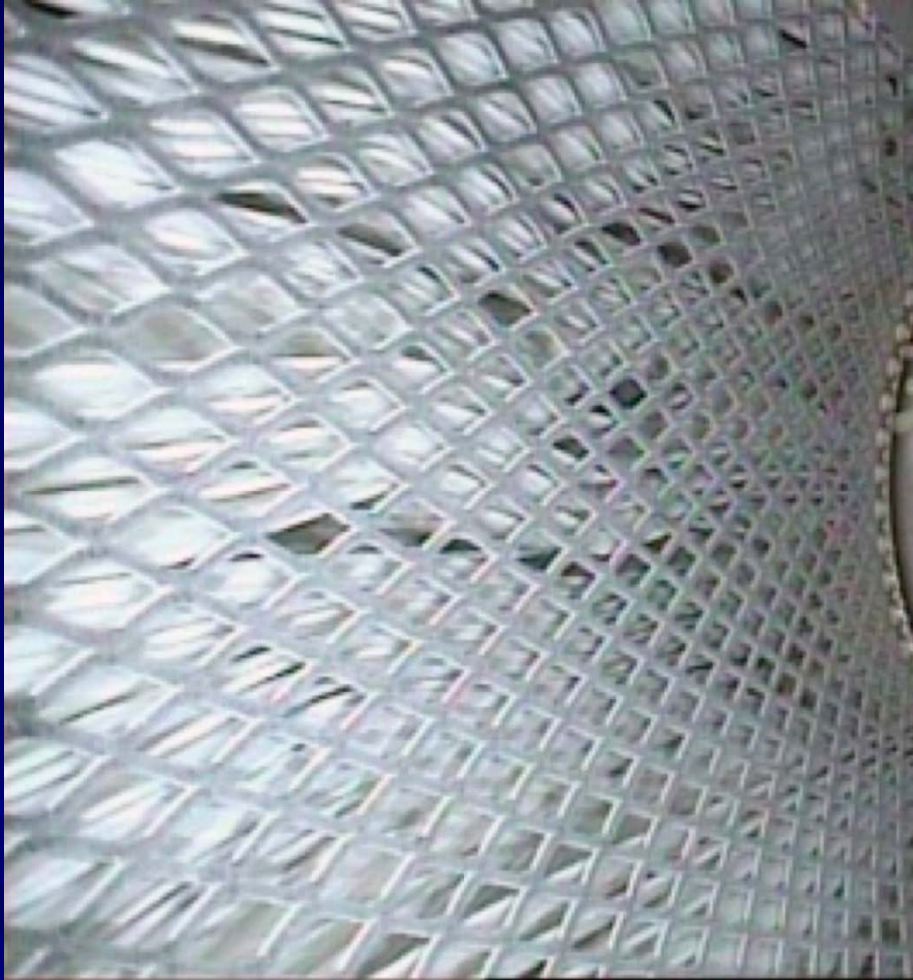
Time to Rupture



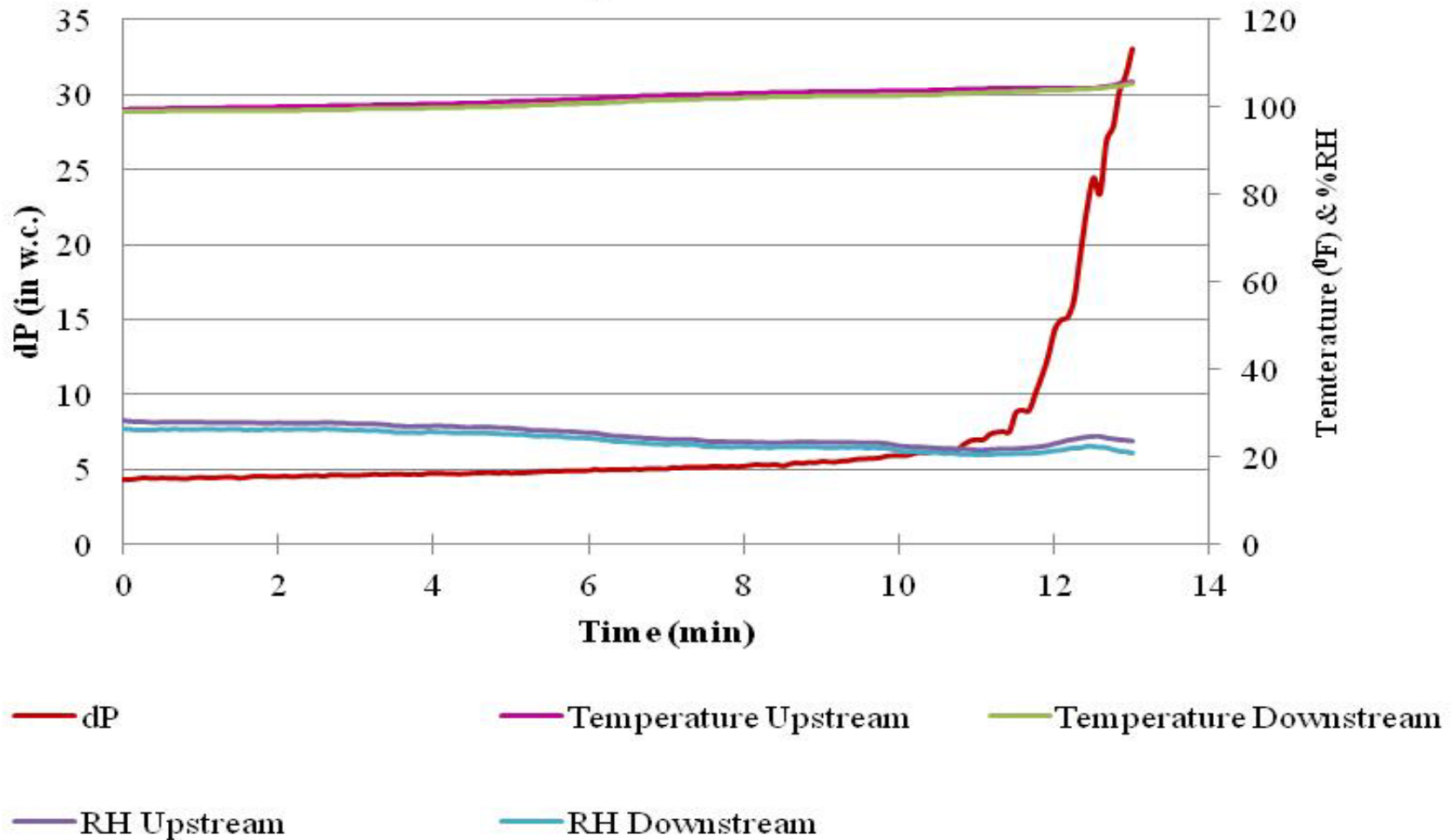
Design Basis Event Performance



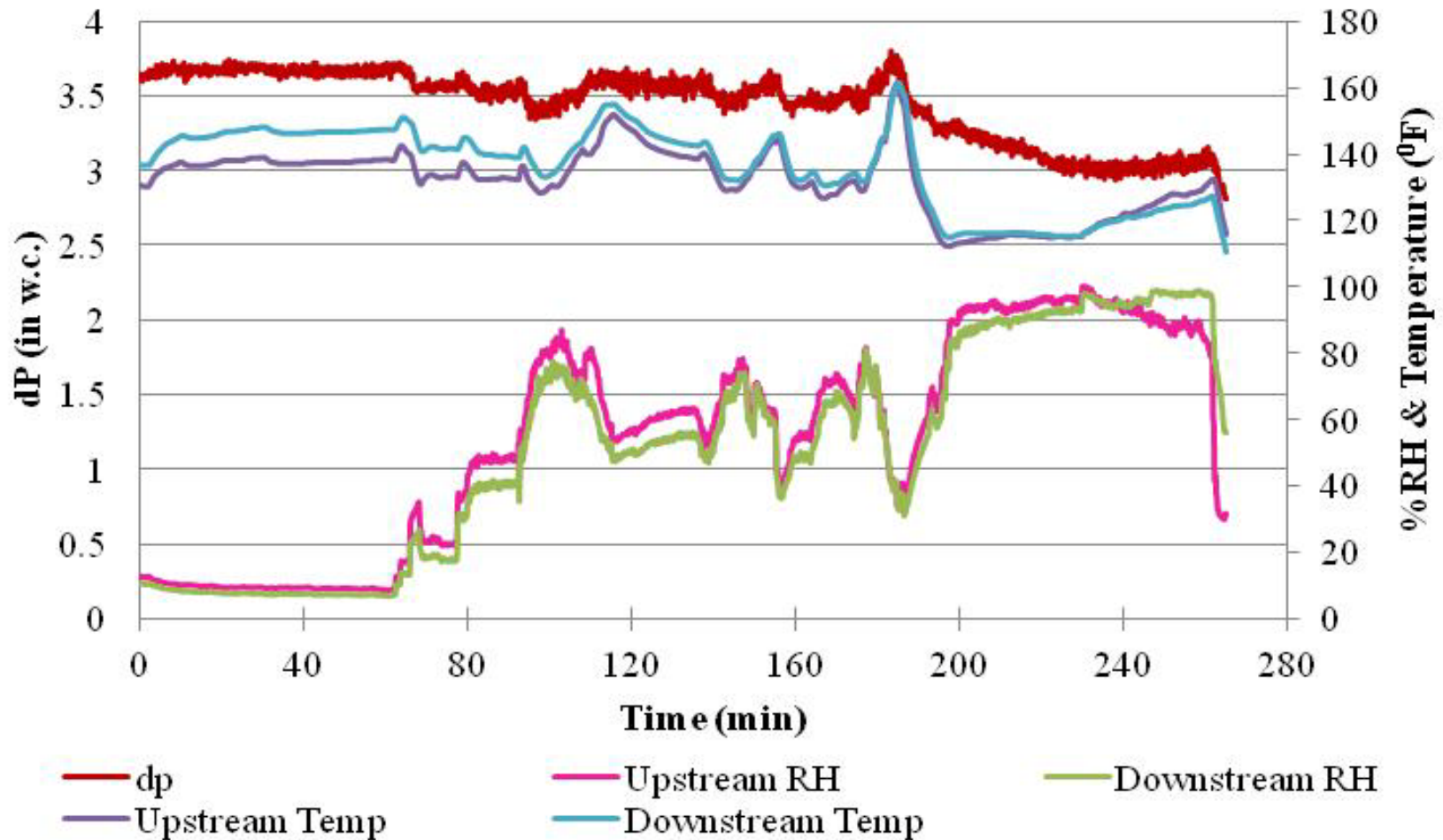
Rupture



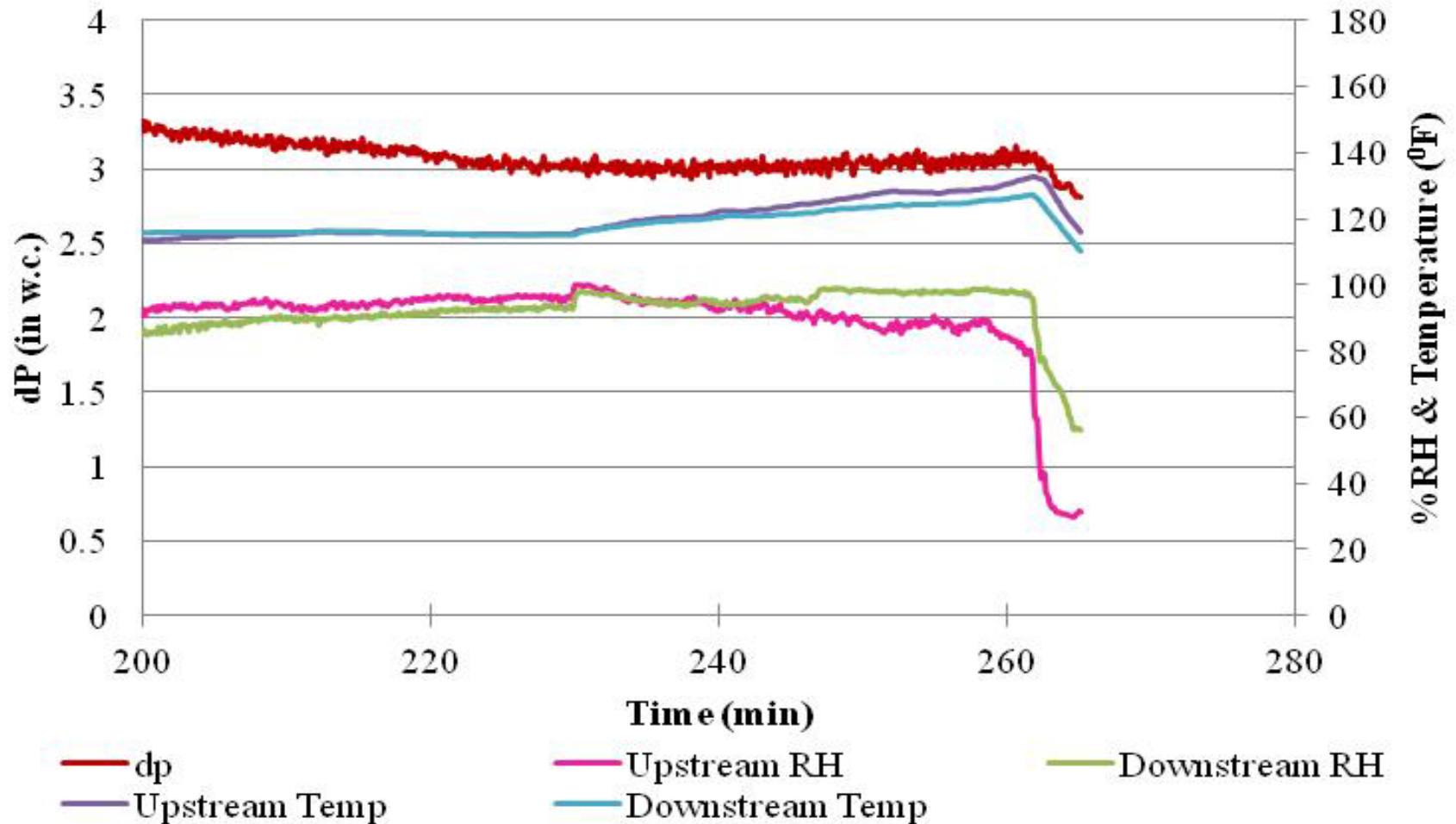
Loaded FC Separatorless Filter



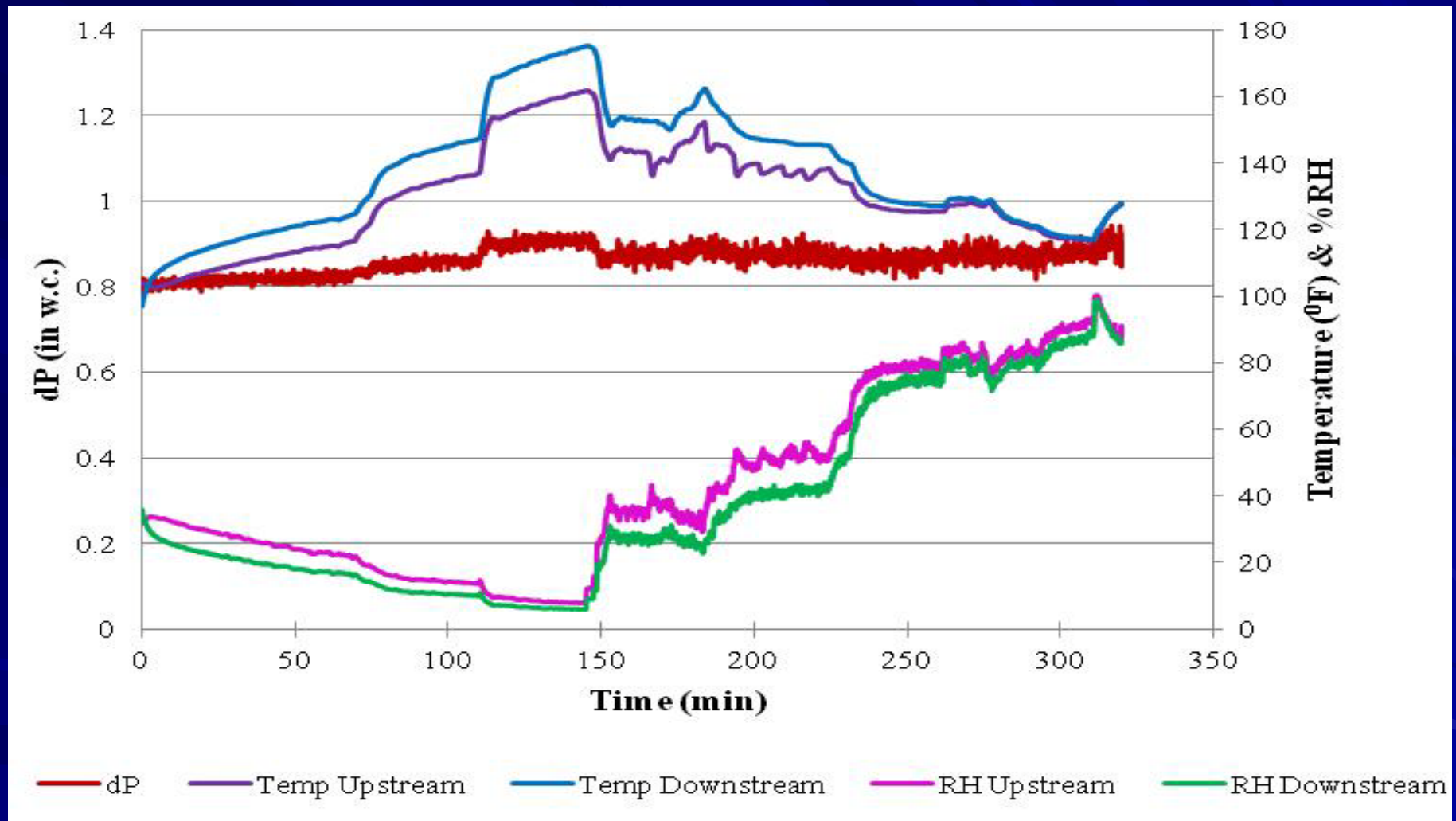
Loaded FC Separator Filter



Loaded FC Separator Filter



Clean FC Separatorless Filter



Asymmetrical Choices

- Prepare Assuming Success or Prepare to Prevent Failure
- The Bias of Assuming the Familiar
- The Bias of Ignoring Low Probability and High Consequence

Time for Deliberate Reflection

- Is a DBE-based Performance-Oriented Loading Test Needed?
- What Do Current Qualification Tests Evaluate?
- How Universally Protective Are the Target Performance Criteria?
- How Accurately Do These Tests Reflect DBE Challenge Scenarios?

Acknowledgement

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Pascal's Wager

- The Game of Life is Being Played
- One of Two Choices Will Occur Leading to Acceptable or Bad Consequences
- You Must Play the Game
- Neither Choice can be Defended by Logic
- Let Us Weigh the Costs
- Prepare for Safety or Prepare for Adverse Consequences