

Radiant Panel for Insulation

Pat Cahill

Engineer, Fire Safety Team

FAA Wm. J. Hughes Technical Center

Atlantic City International Airport, NJ 08405

International Aircraft Materials Fire Test Working Group

Seattle, Washington

March 6 – 7, 2013



**Federal Aviation
Administration**

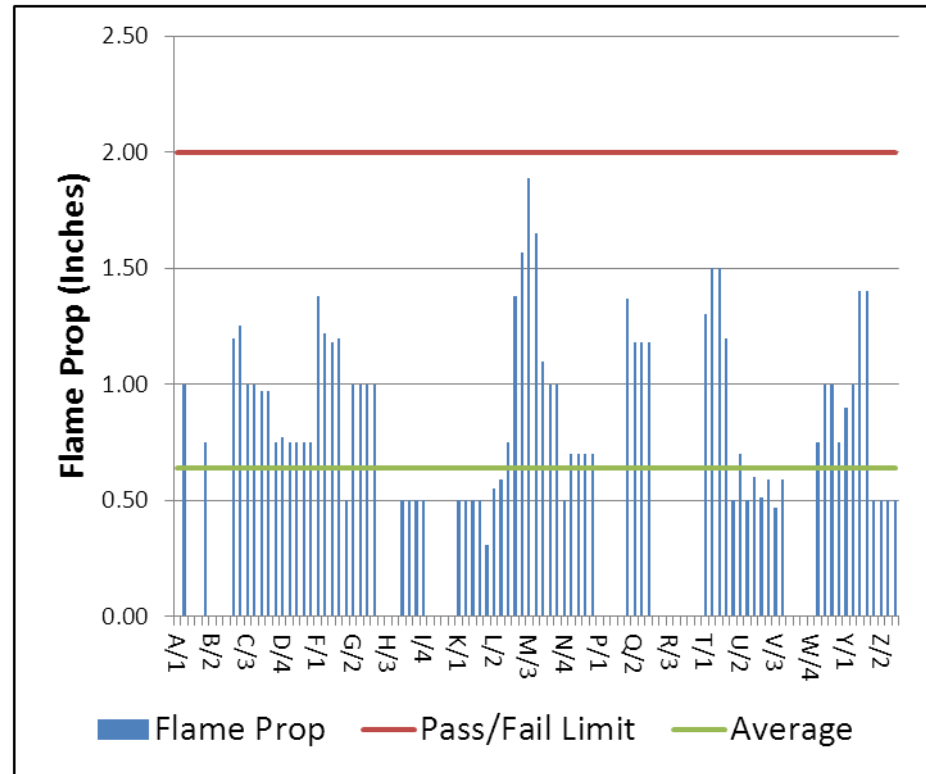
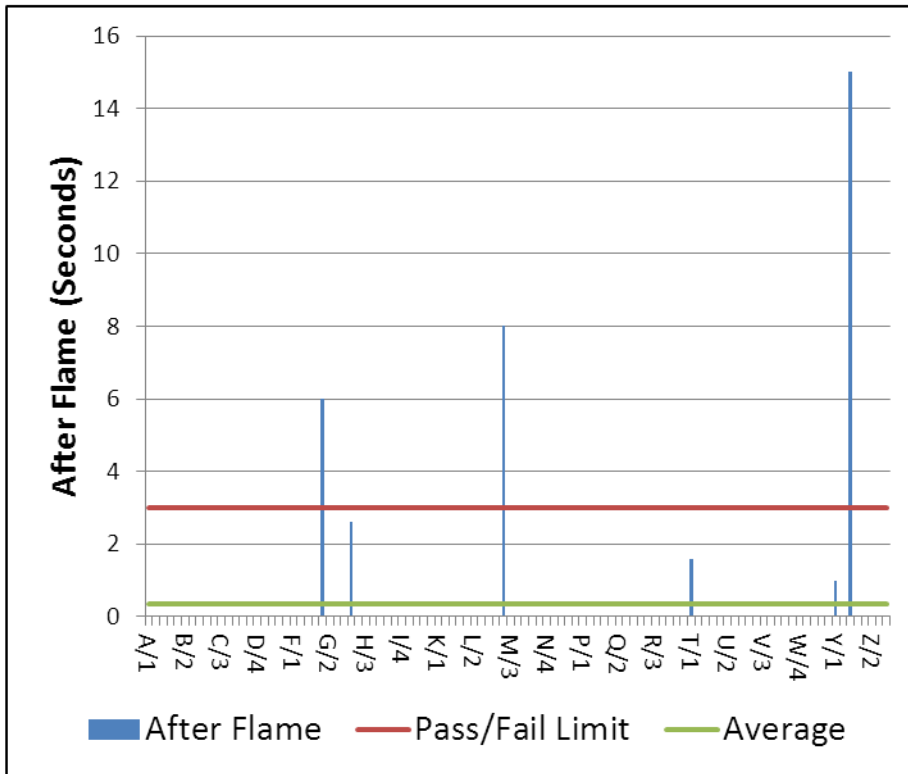
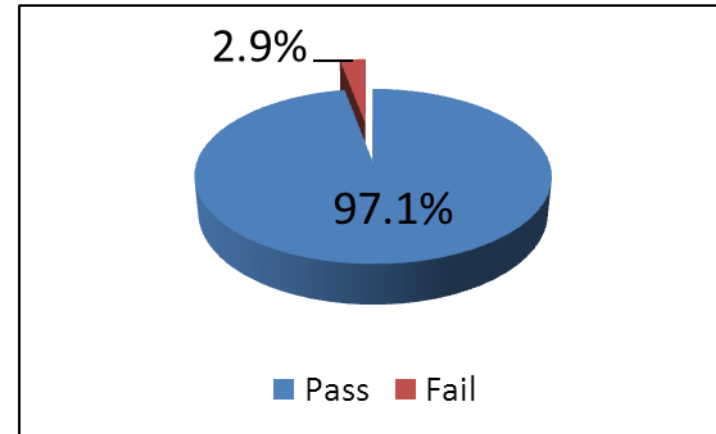


Round Robin Final Results

- All 26 participating labs have reported their results
- This Round Robin consisted of:
 - Film cover and tape (Sample A)
 - Film cover and tape (Sample B)
 - Three different double sided tapes (Samples T, P, and C)

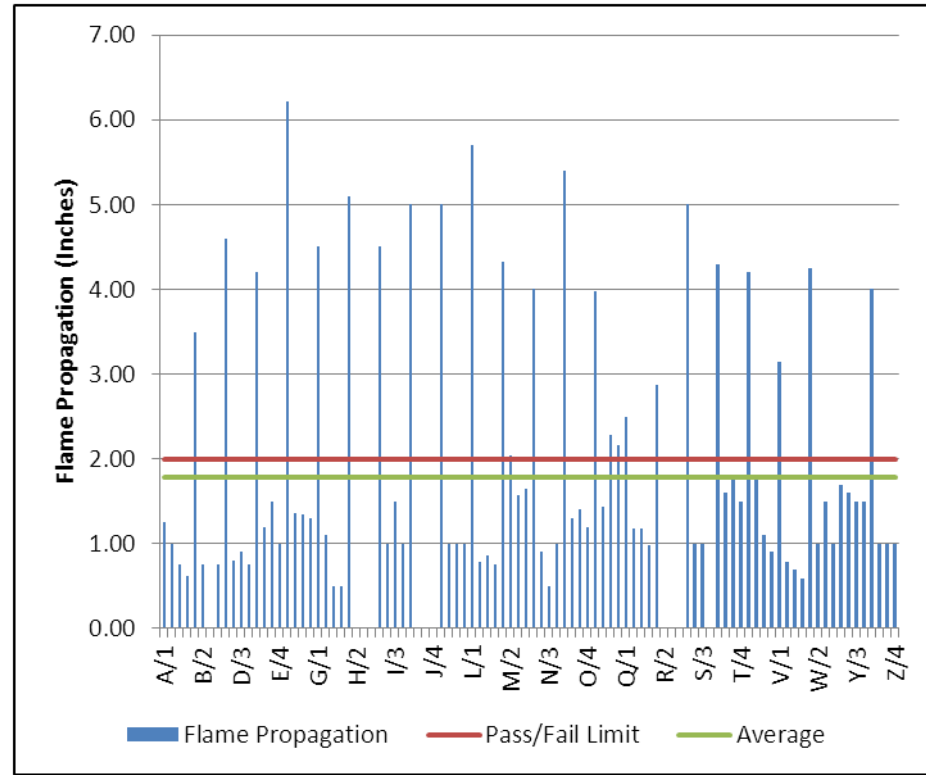
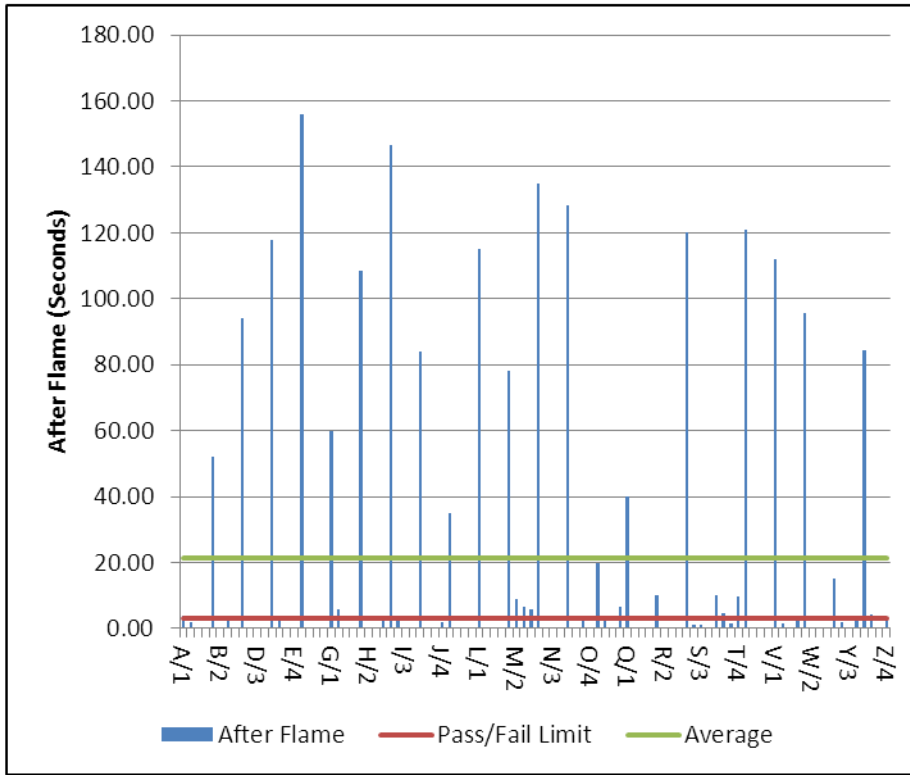
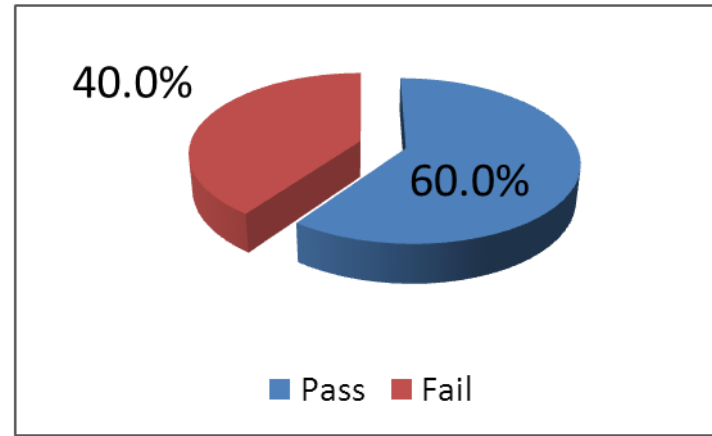
“A” Samples

	After Flame	Flame Prop
Average	0.33	0.64
Std Dev	1.78	0.50
Min	0.00	0.00
Max	15.00	1.89
# Tested	103	



“B” Samples

	After Flame	Flame Prop
Average	21.42	1.78
Std Dev	42.03	1.57
Min	0.00	0.00
Max	156.00	6.22
# Tested	95.00	



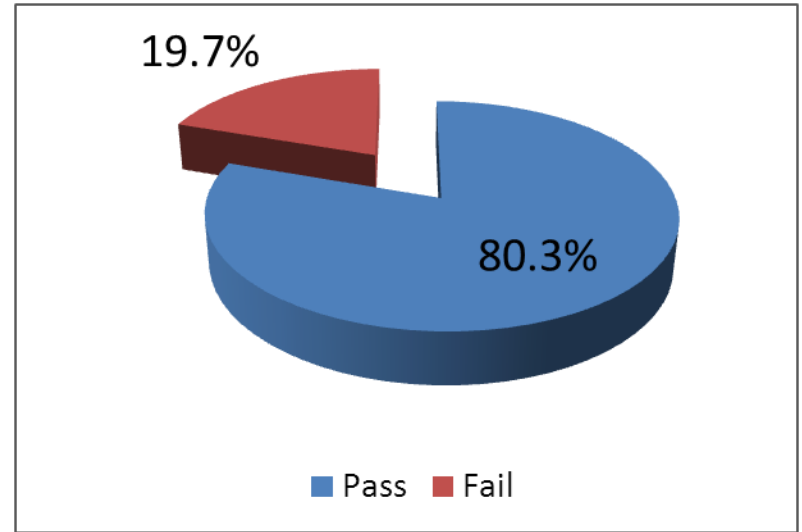
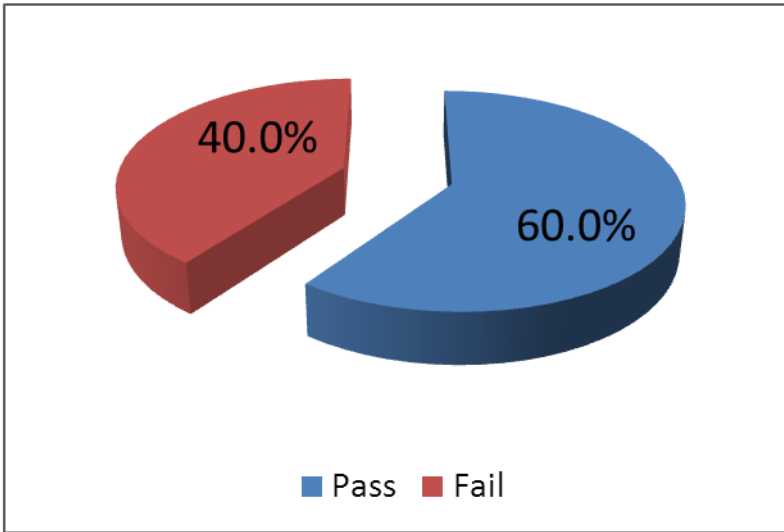
Adjusted "B" Samples

All Labs were supposed to Fail Sample 1B.

	After Flame	Flame Prop
Average	21.42	1.78
Std Dev	42.03	1.57
Min	0.00	0.00
Max	156.00	6.22
# Tested	95.00	

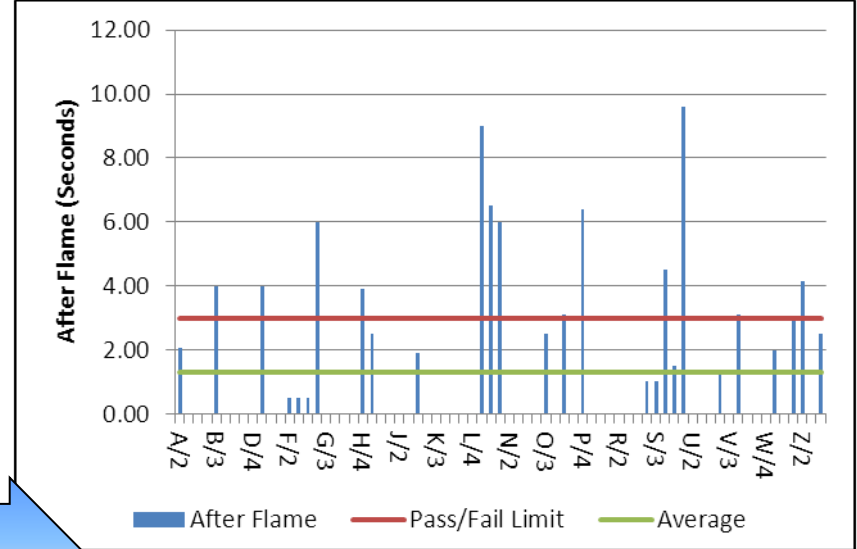
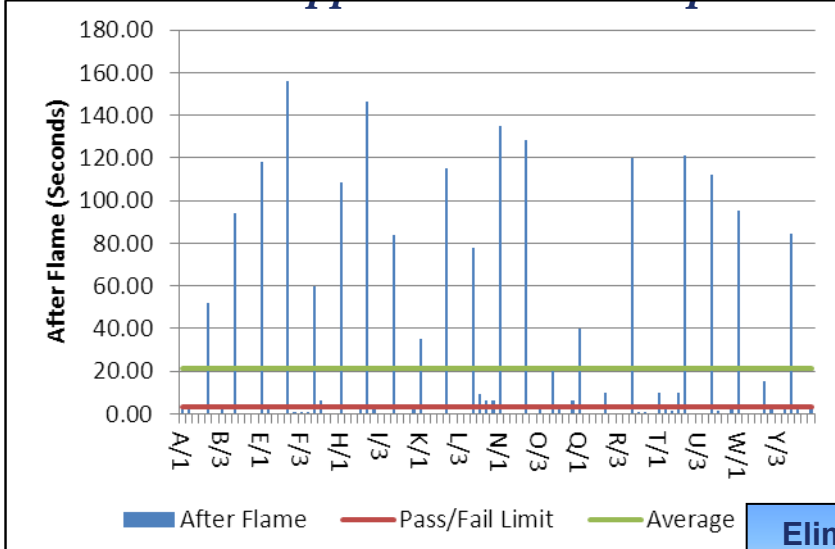
Eliminate Sample 1B

	After Flame	Flame Prop
Average	1.31	0.98
Std Dev	2.26	0.55
Min	0.00	0.00
Max	9.60	2.29
# Tested	71.00	

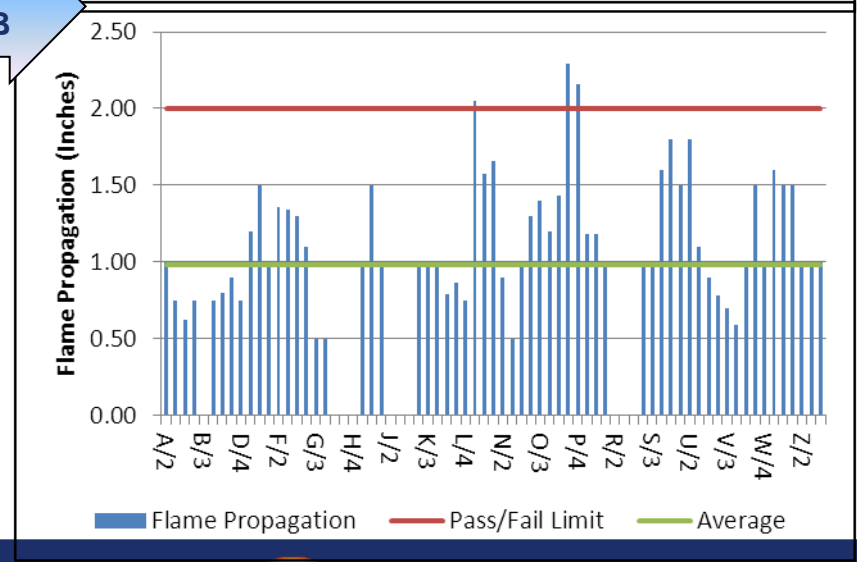
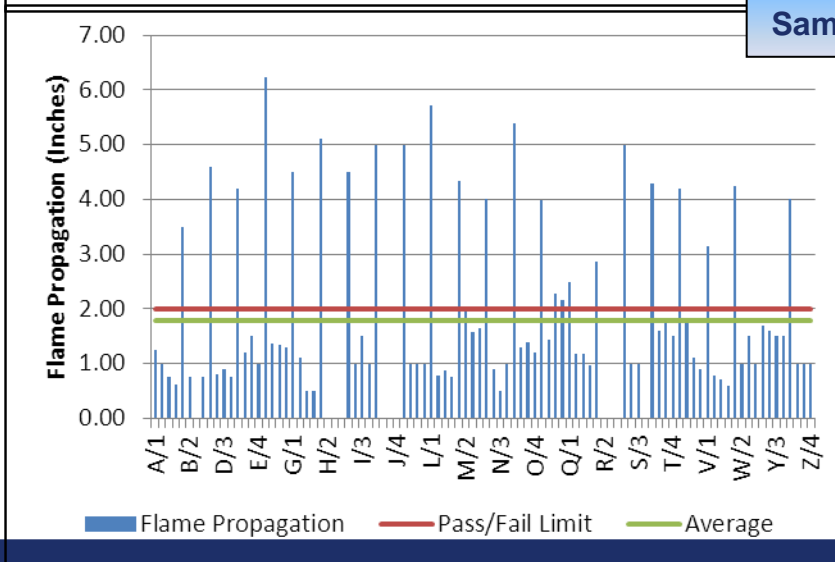


Adjusted "B" Samples

All Labs were supposed to Fail Sample 1B.

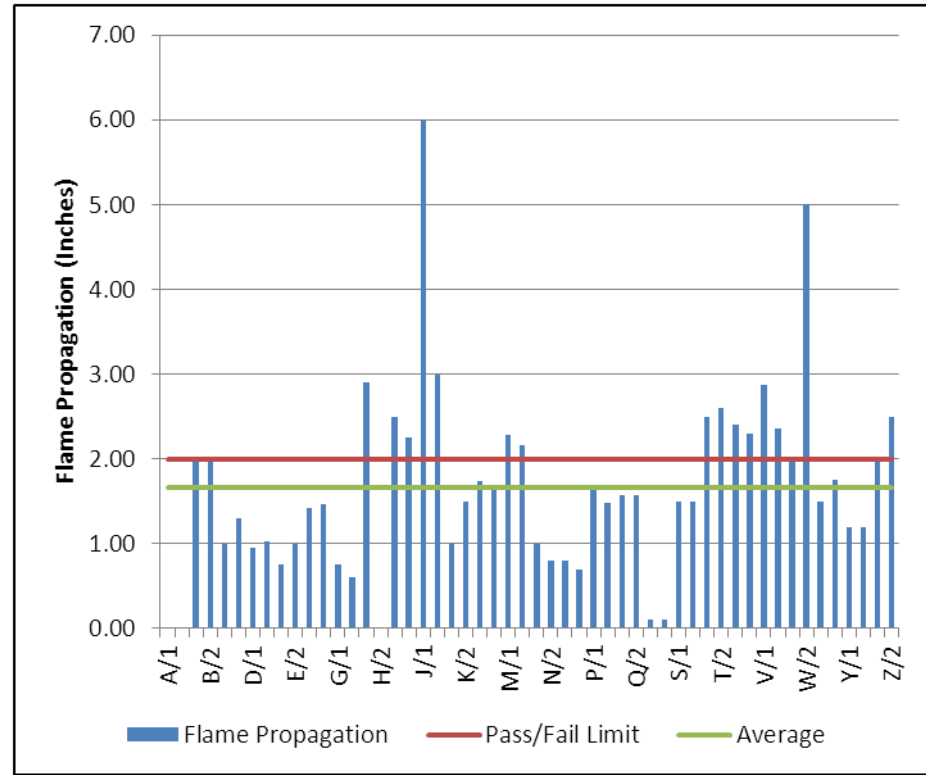
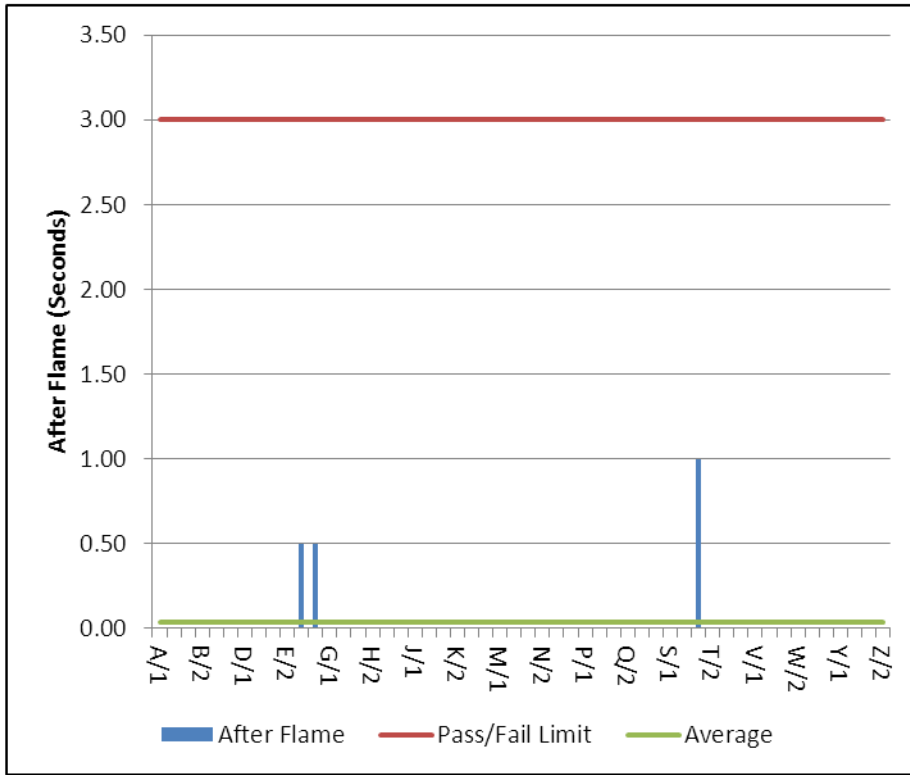
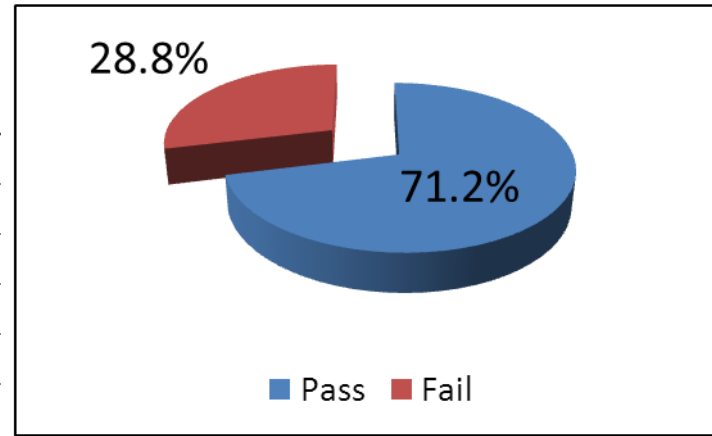


Eliminate Sample 1B



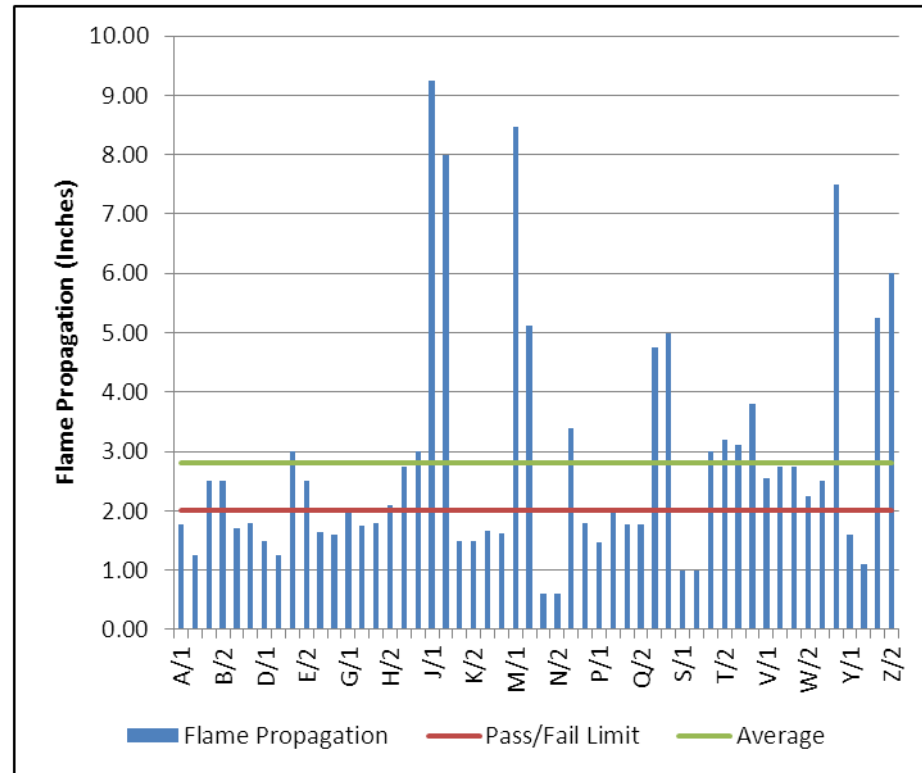
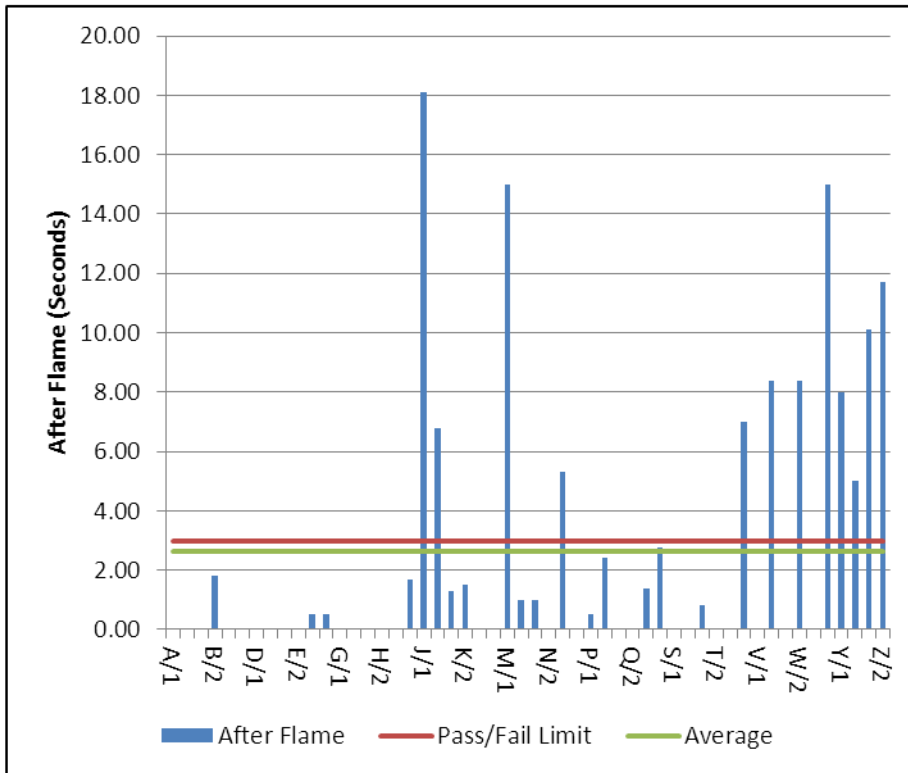
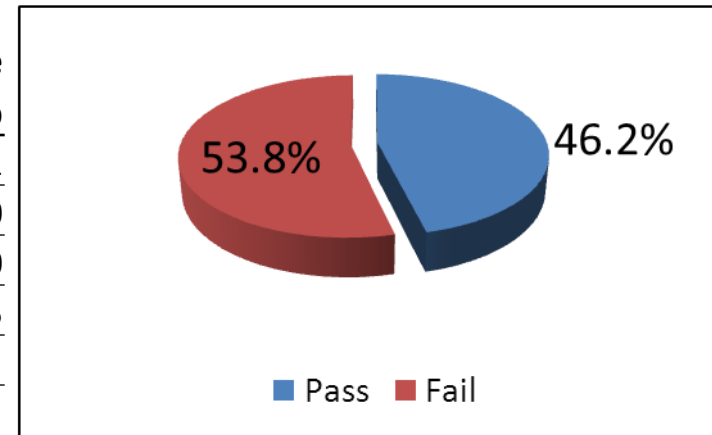
“T” Samples

	After Flame	Flame Prop
Average	0.04	1.66
Std Dev	0.17	1.11
Min	0.00	0.00
Max	1.00	6.00
# Tested	52.00	



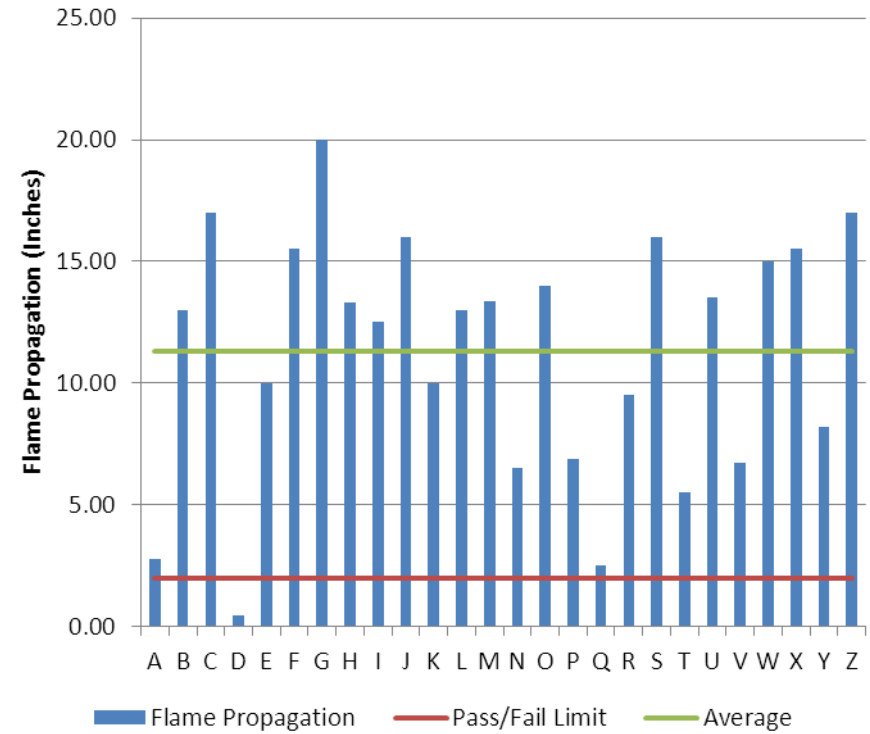
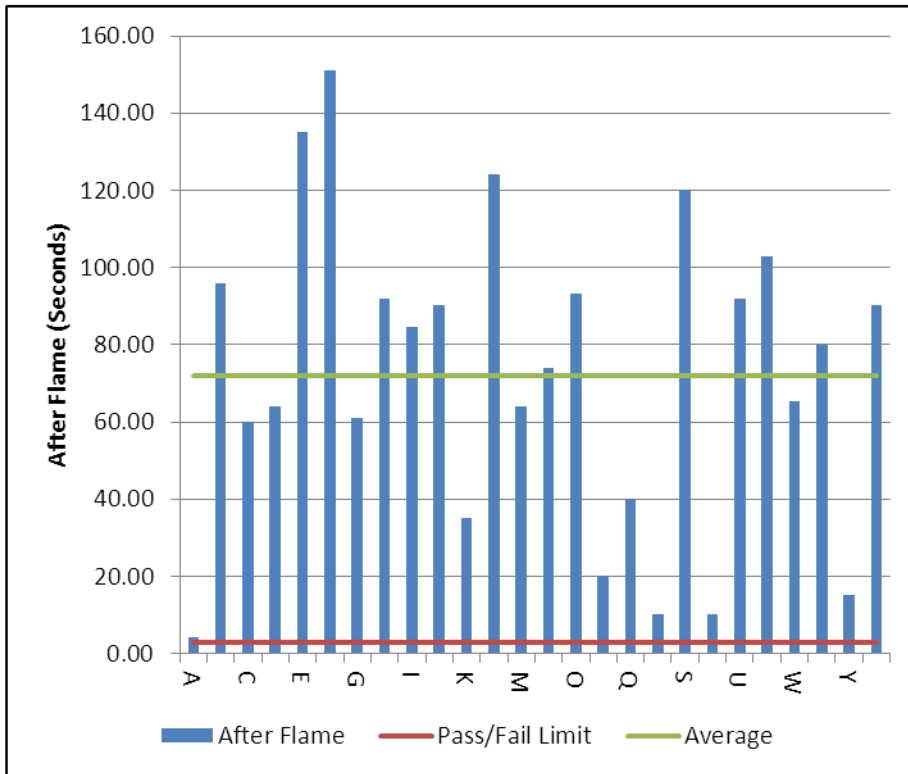
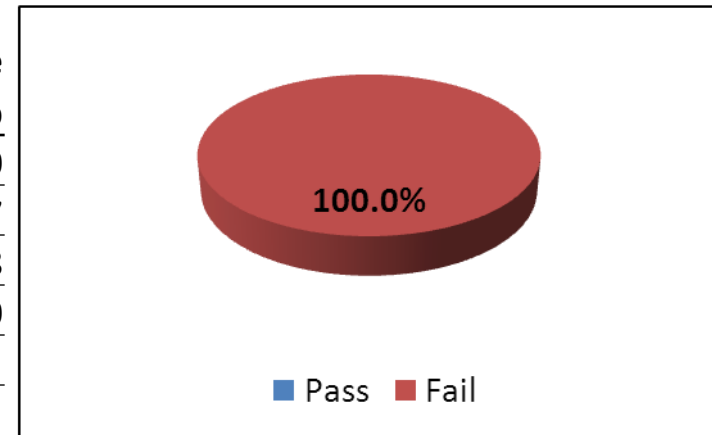
“P” Samples

	After Flame	Flame Prop
Average	2.61	2.81
Std Dev	4.52	2.00
Min	0.00	0.60
Max	18.10	9.25
# Tested	52.00	

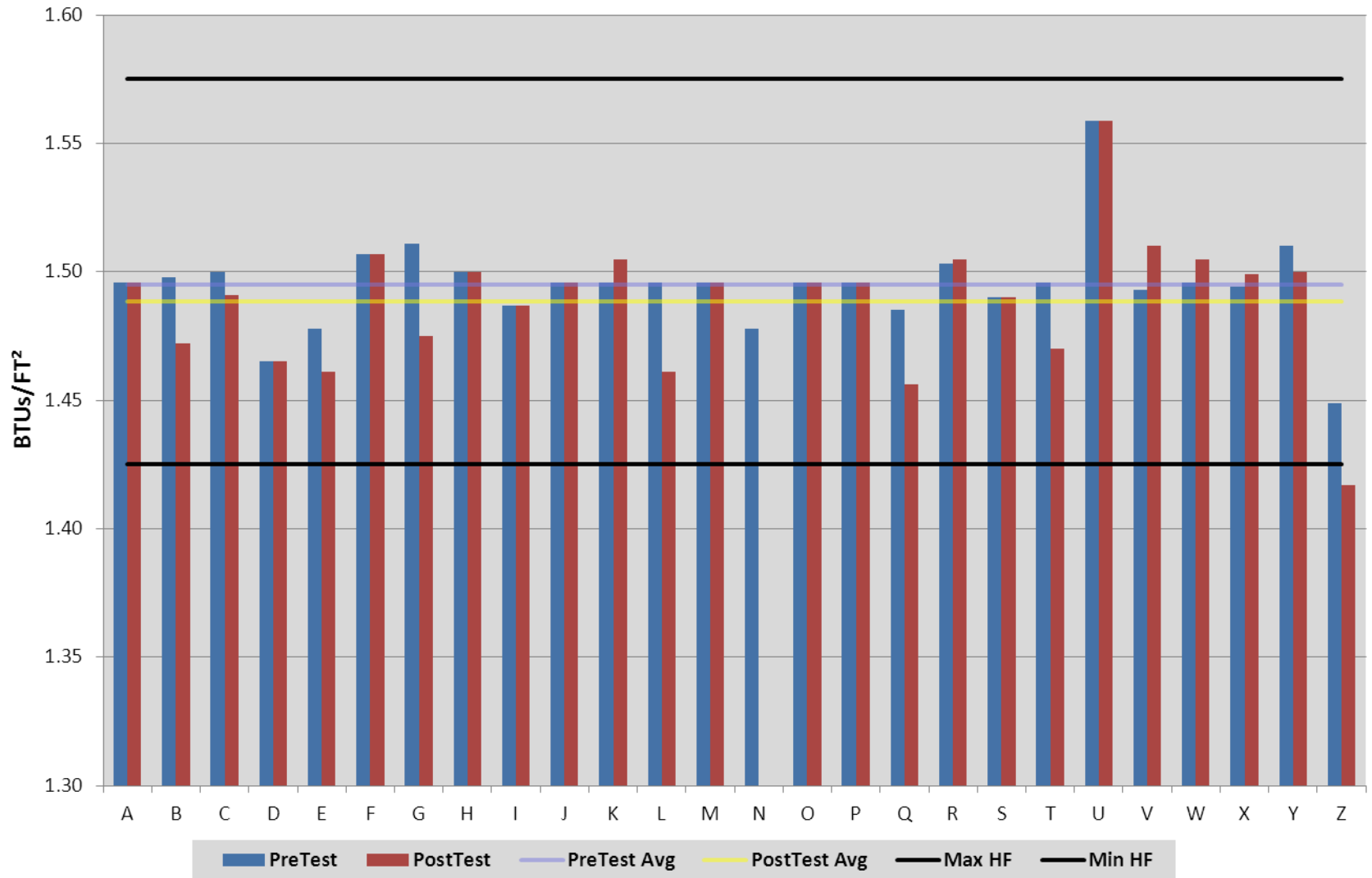


“C” Samples

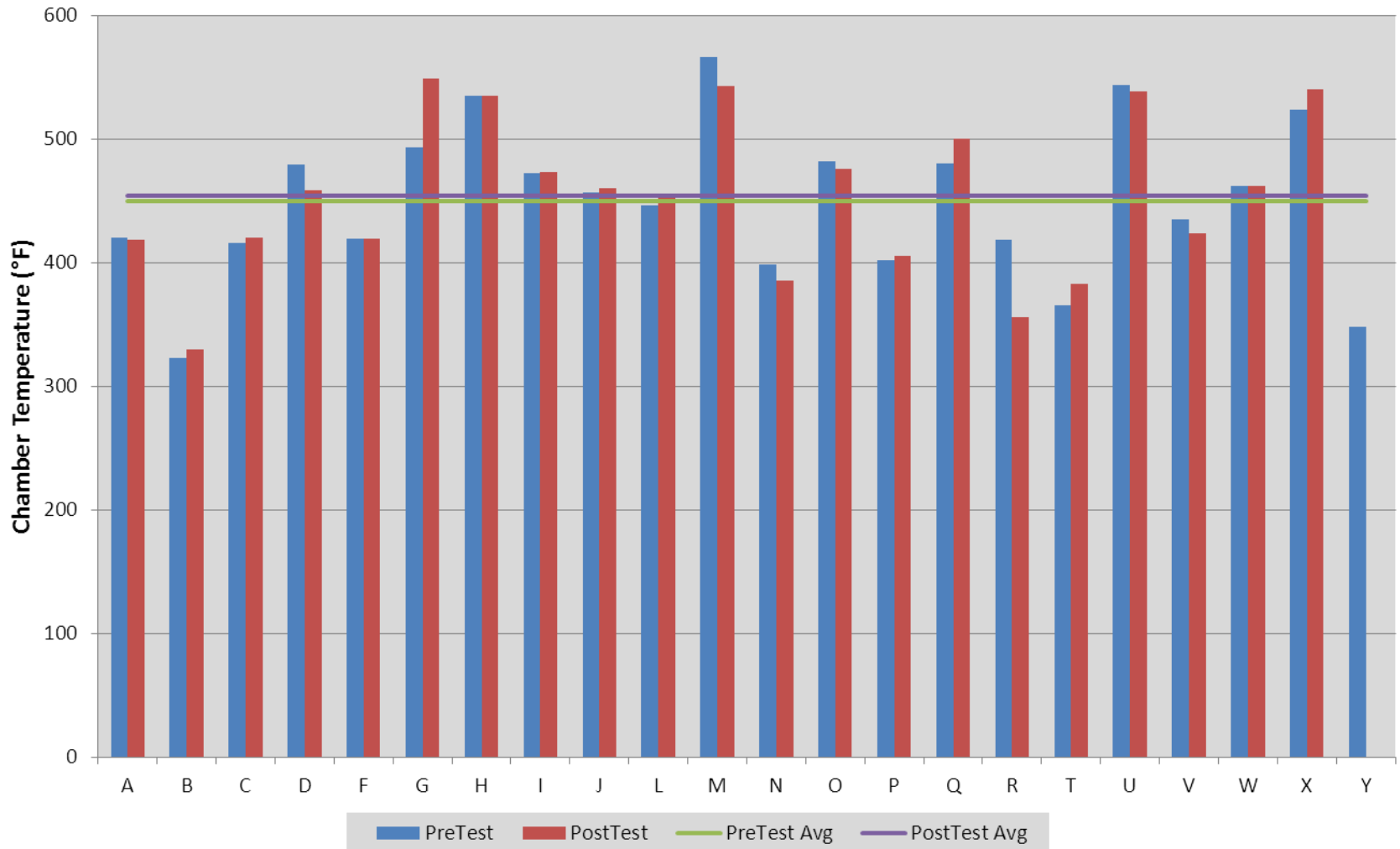
	After Flame	Flame Prop
Average	72.06	11.30
Std Dev	40.00	5.07
Min	4.00	0.48
Max	151.00	20.00
# Tested	26.00	



PreTest & PostTest Heatflux

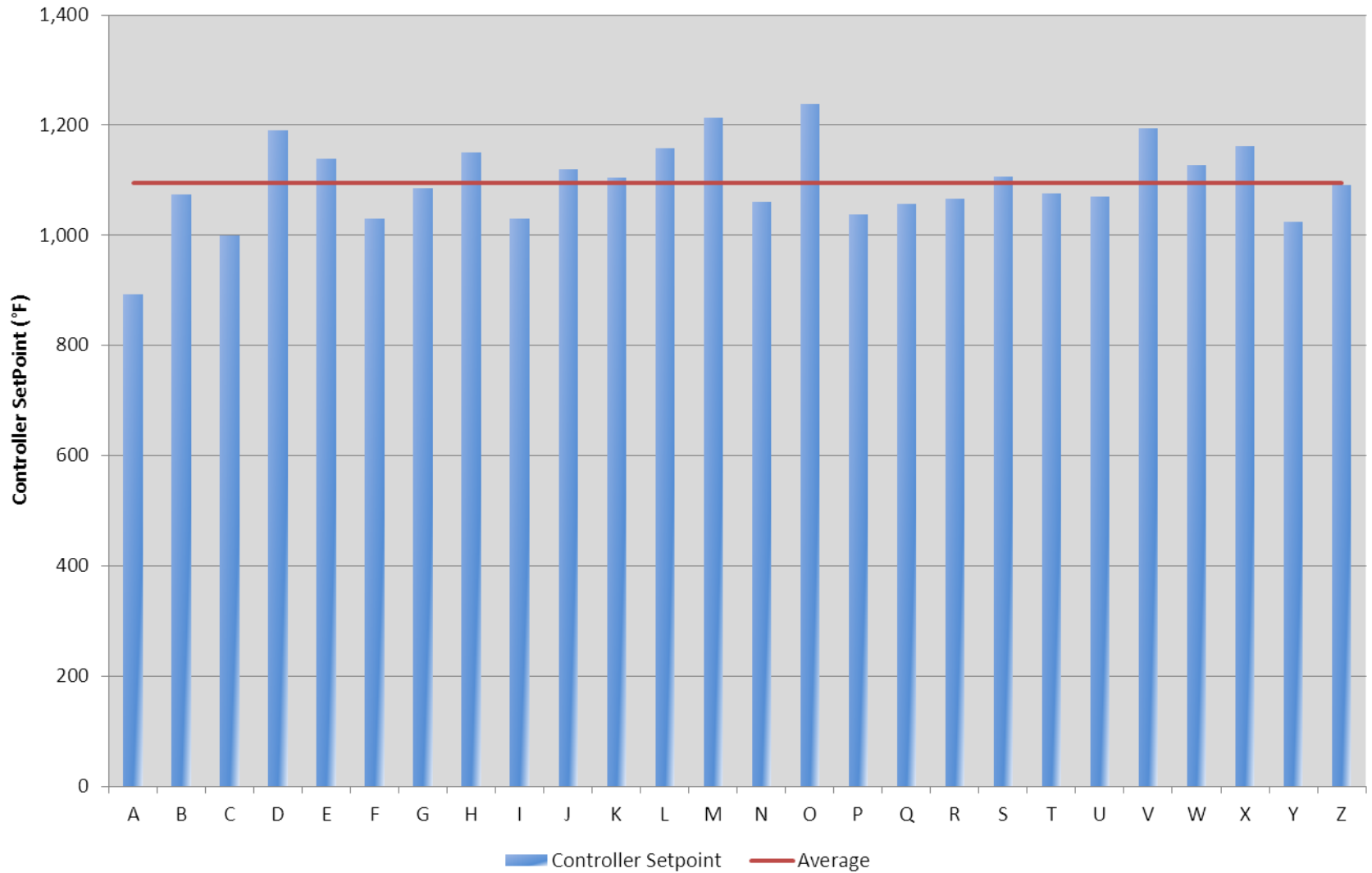


PreTest & PostTest Chamber Temperature



Labs not shown either misreported data or didn't report it at all.

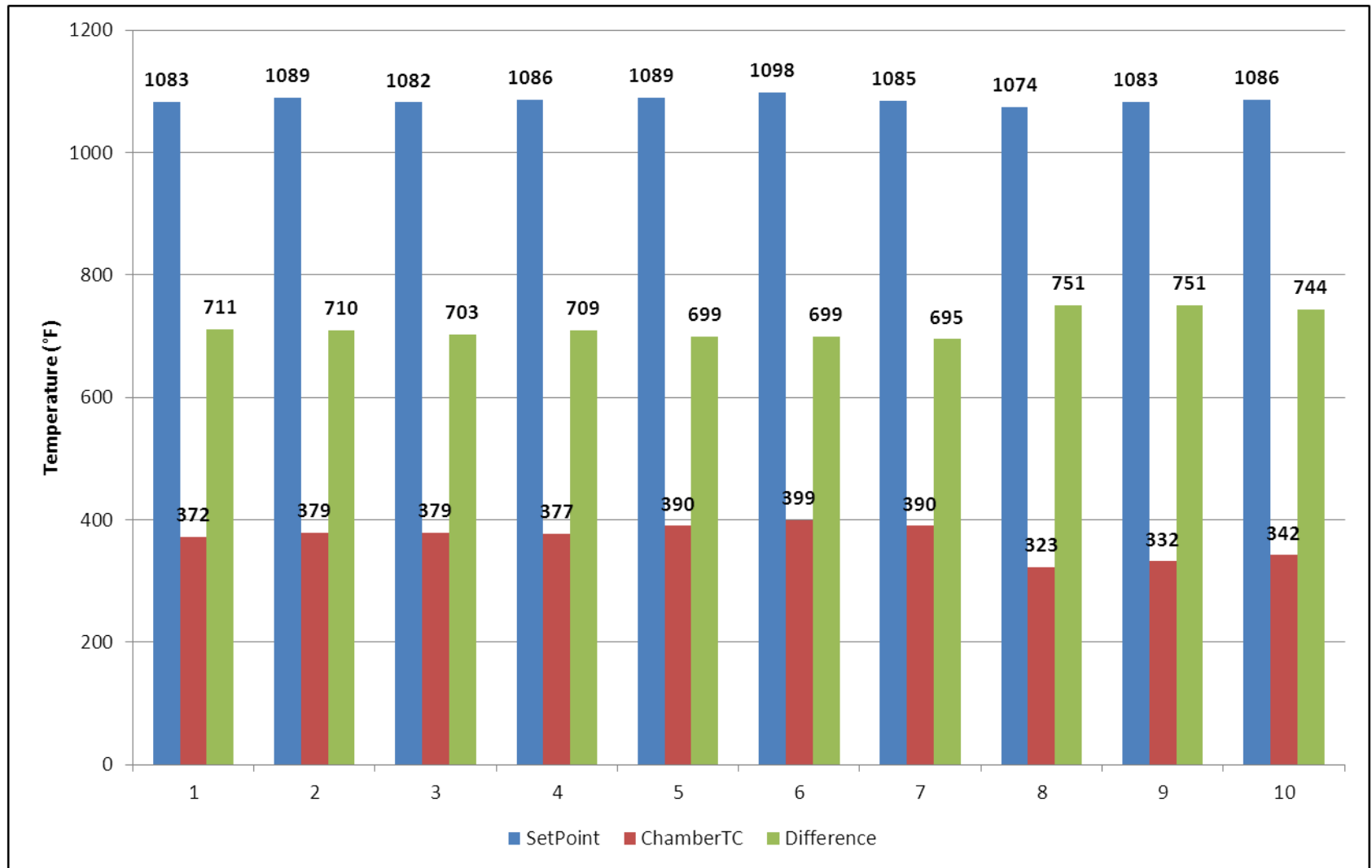
Controller SetPoints



Set Points and Chamber Temperature

- Possible reasons low controller SetPoints and high chamber temperatures, and vice versa (as reported by participating labs):
 - Actual location of the chamber thermocouple
 - Aging panel
 - Degrading thermocouple in the well (back of the panel)
 - Placement of the thermocouple in the well
- The following slide depicts 10 randomly documented Setpoints and Chamber Temperatures during 2012 at the FAA Technical Center.

Set Points and Chamber Temperature



Task Group Talking Points

- Need for future Round Robins?
- If so, what should be evaluated?
- Are there any problems that need to be addressed?