

BPI Field Exam Cheat Sheet - Pa, CFM, CFM50, CAZ, Draft, Room Pressure

Cramming all these new terms into a week class is a great way to confuse a BPI class and it can be hard to keep your terms straight. Below is a table to help in order of your audit or BPI Field test, keep in mind that each of these terms are different tests and separate from each other. Test yourself by writing the equations for each term out as I have not listed them here.

Term	Unit	What's On What's Off	What it tells us	Threshold
Ambient CO	ppm - parts per million	CO monitor clip is on	If the homeowner and ourselves are at risk during our tests	35 ppm or lower
Baseline	Pa - pressure	Doors open, AHU off, exhaust fans off	Normalizes wind and outside conditions	None
Dominant duct leakage (DDL)	Pa - pressure	only AHU ON	If there is more leakage on the supply (positive) or return (negative)	Positive pressure = more return leakage
Room pressure	Pa - pressure	only AHU ON	If a room is getting too pressurized and the house depressurized	-3 to +3 Pa is good
Worst case	Pa - pressure	AHU on if neg DDL AHU off is positive DDL All exhaust fans on Interior door check	Sets the home to try to make it fail while we are there to alert the homeowner. Done to: 1) get a CAZ reading and 2) perform combustion safety tests	More negative is better for our test, but bad for the homeowner.
CAZ Readings	Pa - pressure	Under worst case in the CAZ	Done under worst case conditions, in the same room as a combustion appliance (furnace, water heater, oven, dryer, central vacuum, fireplace). CAZ reading taken WRT the outside.	See BPI Standards for limits. The more positive, the better.
Draft	Pa - pressure	Pitot tube. Under worst case	Tells us if the draft of the flue stack is strong enough to remove flue gases. Done under worst case conditions first, 1-2 feet above diverter, within 60 sec of start-up.	See BPI Standards for limits. The more negative, the better. Done under worst case conditions first, 1-2 feet above diverter, within 60 sec of start-up.
Spillage	No units, pass or fail	Smoke pen. Under worst case	Test if backdrafting of combustion gases occurs.	Pass or fail. Done under worst case conditions first, within 60 sec of start-up.
Undiluted CO	ppm - parts per million	GAS WH, dryer, furnace, oven, fireplace. Under worse case	If the appliance is comusting well and turning natural gas into CO2 for complete combustion	See BPI Standards for limits.
MVR / BAS	Cubic feet per minute - flow rate	Calculator and paper and pen	If a home is too tight according to BPI Standards based on a 0.35 ACHN exchange rate.	If BAS > final CFM50 > (0.7 x BAS) Must recommend mech. vent.

CFM	Cubic feet per minute - flow rate	All AHU and fans off. Just blower door	The flow rate of air leakage from a home while ramping up to 50 Pa	If $(0.7 \times \text{BAS}) > \text{final CFM50}$ Must install mech. vent.
CFM50	Cubic feet per minute - flow rate	All AHU and fans off. Just blower door	The flow rate at 50 Pa. This is our blower door whole house leakage number.	None
ACH50	No units	All AHU and fans off. Just blower door	# of times air house air is replaced with outside air	See BPI Standards for BAS
Pressure pan	Pa - pressure	All AHU and fans off. Just blower door	How much duct leakage is from a duct coming out of each register.	None
Zonal pressure	Pa - pressure	All AHU and fans off. Just blower door	Which zones are connected to each other, if a zone is outside or inside.	Less than 1 Pa, the lower the less duct leakage
				0 - 10 Pa Inside
				11 - 39 Pa Confused
				40 - 50 Pa Outside