

Combustion Appliance Zone Depressurization Remediation Guidance

Measured Combustion Appliance Zone (CAZ) Pressure

- 1) A worst case CAZ test will be completed as part of the energy audit process and again during the quality control inspection. The CAZ testing will be done in accordance with section 8.1 of the MN Weatherization Field Guide – SWS Aligned Edition in Appendix B.
- 2) If either test results in a worst case CAZ depressurization that is negative two (-2) pascals or more negative than the CAZ depressurization limit, action can be taken to remediate the condition.
- 3) Guidance on CAZ testing, evaluation of test results, and potential remediation can be found in sections 8.1.4 - 8.1.6 of the MN Weatherization Field Guide - SWS Aligned Edition in Appendix B.
- 4) Cost and probable effectiveness will be taken into account when selecting remediation measures.
- 5) Remediation measures must follow all applicable policies including the Allowable Measures Chart in Appendix C.

Calculated CAZ Pressure

The most recent version of the Weatherization Assistant software can be used to calculate the anticipated effects of air sealing and exhaust ventilation on CAZ depressurization.

- 1) In the *Health & Safety* tab, under the *ASHRAE Ventilation* sub-tab, fill in the *Ventilation* box (specific fields are highlighted in blue below).

Ventilation		Fans		Pre Wx		Target		Actual Post Wx	
		Room Exists	Operable Window	CFM	Deficit	CFM	Deficit	CFM	Deficit
# of Bedrooms	3	Kitchen 1	<input checked="" type="checkbox"/>	0		0			
# of Occupants	1	Kitchen 2	<input type="checkbox"/>						
Floor Area (sq ft)	1536	Bath 1	<input checked="" type="checkbox"/>	22		80			
State	MN	Bath 2	<input type="checkbox"/>						
City	Two Harbors	Bath 3	<input type="checkbox"/>						
Building Height (ft)	17	Bath 4	<input type="checkbox"/>						
Pre Wx BD	1700	Continuous Ventilation Needed (CFM)							
Target BD	1100								
Actual Post Wx BD									

Depressurization		Pre Wx		Target	Actual
Pre Wx		All Other Exhaust Vent (CFM)			
Target		CAZ Limit (Pascals)			
Actual Post Wx		Depressurization (Pascals)			
Flow Exponent					

Combustion Appliance Zone Depressurization Remediation Guidance

- 2) In the *Health & Safety* tab, under the *ASHRAE Ventilation* sub-tab, fill in the *Depressurization* box (specific fields are highlighted in green below).

The screenshot shows the ASHRAE Ventilation software interface. The 'Depressurization' section is highlighted with a red box. It contains the following fields:

Depressurization		Pre Wx	Target	Actual
Pre Wx	Induced draft furnace/boiler vented with DWH	250	250	
Target	Orphaned natural draft DWH (oversized flue)			
Actual Post Wx				
Flow Exponent	0.65			

- 3) If the *Depressurization (Pascals)* field in the *Target* column (highlighted in red below) is two pascals or more (negative) than the *CAZ Limit (Pascals)* field in the *Target* column (highlighted in orange below), action can be taken to remediate the condition.

The screenshot shows the 'Depressurization' section with the following values:

Field	Value	Pre Wx	Target	Actual
All Other Exhaust Vent (CFM)	250	250	250	250
CAZ Limit (Pascals)	-5	-5	-2	
Depressurization (Pascals)	-3	-3	-7.8	

The value -7.8 in the Target column for Depressurization (Pascals) is highlighted in red, and the text "Back Draft Potential" is displayed below it.

Note: the "Back Draft Potential" text will appear anytime the *Depressurization (Pascals)* field is more negative than the *CAZ Limit (Pascals)* field for a given column.

- 4) Guidance on CAZ testing, evaluation of test results, and potential remediation can be found in section 8.1.4 - 8.1.6 of the MN Weatherization Field Guide - SWS Aligned Edition in Appendix B.
- 5) Cost and probable effectiveness will be taken into account when selecting remediation measures.
- 6) All remediation measures must follow all applicable policies including the Allowable Measures Chart in Appendix C.