WORKSHEET G: DUCT RUNS IN UNCONDITIONED SPACE

Duct Load Table		Heating	Cooling	Table 1 Values	99% db	1% db	Grains
	Floor Area (SqFt) >						

Note: If a 7D-AE system serves a main floor area (Fam) and a basement floor area (Fab), the reference floor area equals 0.75 x (FAm + FAb) or Fam (use the largest value)

Base-case load factors and latent heat value from Table 7 (eyeball interpolation is acceptable)

	Existing Construction			Improved Construction		
	R-Value	Base-Case Factors from Table		R-Value	Base-Case Factors from Table	
1		Heat-Loss Factor =			Heat-Loss Factor =	
2	Leakage	Sensible Gain Factor =		Leakage	Sensible Gain Factor =	
3		Latent Gain (Btuh) =			Latent Gain (Btuh) =	
	R-Value Correction (WIF)					
4		For Heat-Loss =			For Heat-Loss =	
5		For Sensible Gain =			For Sensible Gain =	
6		Adjusted Heat-Loss Factor =		< Line 1 Factor x Line 4 Adjustment >		
7		Adjusted Sensible Gain Factor =		< Line 2 Factor x Line 5 Adjustment >		
	Leakage Rate Correction (LCF)					
8		For Heat-Loss =			For Heat-Loss =	
9		For Sensible Gain =			For Sensible Gain =	
10		For Latent Gain =			For Latent Gain =	
11		Adjusted Heat-Loss Factor =		< Line 6 Factor x Line 8 Adjustment >		
12		Adjusted Sensible Gain Factor =		< Line 7 Factor x Line 9 Adjustment >		
13		Adjusted Latent Gain (Btuh) =		< Line 3 Factor x Line 10 Adjustment >		
	Surface Area Adjustment (Default for New Construction = No Adjustment = 1.0)					
14		Installed Supply Area (SqFt) =			Installed Supply Area (SqFt) =	
15		Default Supply Area (SqFt) =			Default Supply Area (SqFt) =	
16		Rs = Installed Area / Default Area =			Rs = Installed Area / Default Area =	
17		Installed Return Area (SqFt) =			Installed Return Area (SqFt) =	
18		Default Return Area (SqFt) =			Default Return Area (SqFt) =	
19		Rr = Installed Area / Default Area (SqFt) =			Rr = Installed Area / Default Area (SqFt) =	
20	Ks =	Kr =		Ks =	Kr =	
21		SAA (Heating and Sensible Cooling) =		< Ks (L20) x Rs (L16) + Kr (L20) x Rr (L19) >		
22		LGA Latent Cooling =		< Latent LGA = Rr (L19) >		
	Heat-Loss and Heat-Gain Factors and Latent Heat (Btuh)					
23	**To J1AE --->**	Net Heat-Loss Factor =		< Line 11 Factor x Line 21 SAA Value >		
24	**To J1AE --->**	Net Sensible Gain Factor =		< Line 12 Factor x Line 21 SAA Value >		
25	**To J1AE --->**	Net Latent Gain =		< Line 13 Gain x Line 22 LGA Adjustment >		

WORKSHEET H: ENGINEERED VENTILATION

Input Data		Heating	Cooling	HTD	CTD	T1 Grains	T10 ACF
	Above Grade Volume (CuFt) >						

Code Value for Outdoor Cfm

1	Air Changes per hour Specified by the Local Code =		or…	Cfm Required by Local Code =
2	Largest Above Grade (Heated or Cooled) Volume =		< See Input Data, Above	
3	Outdoor Air Cfm Equivalent of Code ACH Value =		< ACH (Line 1) x Volume (Line 2) / 60	
4	Code Value for Minimum Amount of Outdoor Air Cfm =		< Largest Cfm Value from Line 1 or 3	
5	Code Cfm may be provided by any combination of Infiltration Cfm and Engineered Ventilation Cfm….(Yes/No)			
6	Code Cfm Shall be Provided by Engineered Ventilation….(Yes/No)			
7	Estimated infiltration Cfm value (Enter Smallest Cfm Value from Lines 8 & 9 Worksheet E) …			
8	Code Cfm Requirement…		< If Line 5 = Yes; Cfm = Line 4 - Line 7 …or… If Line 6 = Yes (Cfm = Line 4 Value)	

Design Value for Engineered Ventilation Cfm

9	Suggested Ventilation Cfm (Line 14 Worksheet E) =			
10	Practioner-Specified Value for Ventilation (Cfm) =		**< To J1AE**	*See Section 3-13, Manual MJ8AE*

Note 1: Code Cfm Value is a Mandatory Minimum. The System designer may choose to Use a Larger Value

Note 2: Use the Unabridged Version of Manual J if the Design Cfm Value Exceeds 50 Cfm

Note 3: Use the Unabridged Version of Manual J if the Design Features Heat Recovery Equipment

Engineered Ventilation Loads

11	Heat Loss (Btuh)	**To J1AE >**	< 1.1 x ACF x Line 10 Cfm x HTD
12	Sensible Gain (Btuh)	**To J1AE >**	< 1.1 x ACF x Line 10 Cfm x HTD
13	Latent Gain (Btuh)	**To J1AE >**	< 0.68 x ACF x Line 10 Cfm x Grains