



Clark County Department of Building & Fire Prevention

4701 West Russell Road, Las Vegas, NV 89118 ~ (702) 455-3000

Kitchen Hood Test Data

Jerome A. Stueve, P.E., Director
Samuel D. Palmer P.E., Assistant Director • James Gerren P.E., Assistant Director • Girard W. Page, Fire Marshal

DATE: _____

CONTRACTOR NAME & LICENSE NO: _____

PERMIT #: _____ APPLICATION #: _____

JOB NAME & ADDRESS: _____

HOOD LOCATION: _____

PLAN SHEET NO.: _____ TESTING EQUIPMENT TYPE: _____

1. TYPE OF HOOD: TYPE I

2. LIST ALL EQUIPMENT UNDER HOOD: _____

3. ACTUAL HOOD SIZE:

$$\frac{\text{_____ FT.}}{\text{(Hood Width)}} \times \frac{\text{_____ FT.}}{\text{(Hood Length)}} = \frac{\text{_____ SQ. FT.}}{\text{(Hood Area)}}$$

4. REQUIRED QUANTITY OF AIR (see UMC 2003 for appropriate formula)

$$\frac{\text{_____ FT.}}{\text{(Hood Width)}} \times \frac{\text{_____ FT.}}{\text{(Hood Length)}} \times \frac{\text{_____}}{\text{(Formula)}} = \frac{\text{_____ CFM}}{\text{(Hood Exhaust)}}$$

5. ACTUAL QUANTITY OF AIR AS MEASURED: _____ CFM
(Actual Volume)

6. ACTUAL TOTAL FILTER AREA: _____ SQ. FT.
(Filter Area)

7. FILTER AIR FLOW RATE PER SQ. FT. OF FILTER AREA:

$$\frac{\text{_____ CFM}}{\text{(CFM from No. 5)}} - \frac{\text{_____ SQ. FT.}}{\text{(Filter Area)}} = \frac{\text{_____ FPM}}{\text{(Each Filter)}}$$

8. LISTED FILTER AIR FLOW RATE: = _____ FPM PER FILTER
(As Shown on Filter)

9. ACTUAL DUCT SIZE:

$$\frac{\text{_____ FT.} \times \text{_____ FT.}}{\text{(Front Width) (Side Width)}} = \frac{\text{_____ SQ. FT.}}{\text{(Duct Size) (rectangular duct)}}$$

OR

$$0.79 \times \frac{\text{_____ FT.}}{\text{(Duct Diameter)}} = \frac{\text{_____ SQ. FT.}}{\text{(Duct Size) (round duct)}}$$

10. ACTUAL GREASE DUCT AIR VELOCITY:

$$\frac{\text{_____ CFM}}{\text{(CFM from No. 5)}} - \frac{\text{_____ SQ. FT.}}{\text{(Duct Size from No. 9)}} = \frac{\text{_____ FPM}}{\text{(Duct Velocity)}}$$

11. REQUIRED DUCT SYSTEM AIR VELOCITY FOR SHOP MADE HOODS:

- A. 1500 FPM (minimum)
2500 FPM (maximum)

OR

- B. MANUFACTURERS STATED VELOCITY FOR LISTED HOODS:

_____ FPM (minimum)

_____ FPM (maximum)

12. MAKEUP AIR SOURCE AND SIZE: _____
(Size of Source in Total CFM)

**THE EXHAUST AND MAKEUP AIR SYSTEMS SHALL BE
CONNECTED BY AN ELECTRICAL INTERLOCK SWITCH.**

PERSON PERFORMING TEST

TITLE & AFFILIATION

**FORMULA FOR SIZING GREASE DUCT
AND DETERMINING AIR VELOCITY**

USING THE FOLLOWING FORMULAS, THE VELOCITY IN A GIVEN SIZE DUCT CAN BE READILY FOUND. THE MINIMUM SIZE ALLOWABLE DUCT OR THE MAXIMUM SIZE ALLOWABLE DUCT MAY ALSO BE DETERMINED. BY USE OF MAXIMUM VELOCITIES, SHAFT AND DUCT SIZES MAY BE REDUCED TO A MINIMUM.

$$\begin{aligned} 144 \times Ah \times f \text{ divided by } Ad &= V \\ 144 \times Ah \times f \text{ divided by } V \text{ min.} &= Ad \text{ (max)} \\ 144 \times Ah \times f \text{ divided by } V \text{ max.} &= Ad \text{ (min)} \end{aligned}$$

- Ah** = hood area, in square feet.
Ad = duct area, in square inches
F = exhaust factor, for type of equipment (UMC section 2002-g)
V = velocity, in lineal feet per minute
V min. = 1500 lineal feet per minute
V max. = 2500 lineal feet per minute