

Scientific Equipment & Furniture Association Recommended Practices

SEFA 9-2010 - Ductless Enclosures



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Foreword

SEFA Profile

The Scientific Equipment and Furniture Association (SEFA) is an international trade association comprised of manufacturers of laboratory furniture, casework, fume hoods and members of the design and installation professions. The Association was founded to promote this rapidly expanding industry and improve the quality, safety and timely completion of laboratory facilities in accordance with customer requirements.

SEFA Recommended Practices

SEFA and its committees are active in the development and promotion of Recommended Practices having domestic and international applications. Recommended Practices are developed by the association taking into account the work of other standard-writing organizations. Liaison is also maintained with government agencies in the development of their specifications.

SEFA's Recommended Practices are developed in and for the public interest. These practices are designed to promote a better understanding between designers, architects, manufacturers, purchasers, and end-users and to assist the purchaser in selecting and specifying the proper product to meet the user's particular needs. SEFA's Recommended Practices are periodically updated. The Recommended Practices are numbered to include an annual suffix which reflects the year that they were updated. SEFA encourages architects to specify these Recommended Practices as follows: "SEFA 9-2010".

SEFA Glossary of Terms

SEFA has developed a Glossary of Terms (SEFA 4-2010) for the purpose of promoting a greater understanding between designers, architects, manufacturers, purchasers and end users. The terms defined by SEFA are frequently used in contracts and other documents, which attempt to define the products to be furnished or the work involved. The Association has approved this Glossary in an effort to provide uniformity among those who use these terms. Where a specific Recommended Practice contains definitions which differ from those in the Glossary of Terms, then the definitions in the specific Recommended Practice should be used.

SEFA encourages all interested parties to submit additional terms or to suggest any changes to those terms already defined by the Association. The definitions should be used to help resolve any disputes that may arise or to incorporate the applicable terms in any contract or related documents.

SEFA Disclaimer

SEFA uses its best effort to promulgate Recommended Practices for the benefit of the public in light of available information and accepted industry practices. SEFA does not guarantee, certify, or assure the safety or performance of any products, components, or systems tested, installed, or operated in accordance with SEFA Recommended Practices or that any tests conducted under its Recommended Practices will be non-hazardous or free from risk. SEFA encourages the use of third party independent testing where appropriate.

Note : Testing as described in this document must be performed and documented by a SEFA-approved third party testing facility. See Page 34 of the SEFA Desk Reference 5th Edition Version 2.0, or visit us at SEFALABS.COM for the most current list of SEFA-approved test labs.

1.0 Scope

These SEFA Recommended Practices provide a comprehensive single source of knowledge pertaining to laboratory Ductless Hoods. Since the Ductless Hood is a re-circulating filtration device, which is not integral to the laboratory ventilation system, these practices will primarily address issues relating to filtration, product usage, feasibility, safety and limitations as well as manufacturer usage recommendations and manufacturer responsibility.

2.0 Purpose

To allow for the correct use and application of ductless hoods.

The purpose of these Recommended Practices is to establish manufacturer's requirements for the general design and testing of Ductless Hoods as well as guidelines and procedures for the correct specification, use, maintenance and testing of Ductless Hoods. These requirements, guidelines and procedures are for Ductless Hoods that are used to protect personnel from harmful exposure to contaminants generated within the ductless hood. The individual manufacturer recommendations must be followed for each specific application and usage.

3.0 Ductless Hood Defined

A ductless hood, a/k/a (but not limited to) Ductless Fume Hood, Ductless Filtering Fume Enclosure, Portable Hood, Carbon Filtered Enclosure, Enclosure for Toxins using Re-circulating Air Filtration (E.T.R.A.F.) is an enclosure designed for the handling of contaminants, which limits the propagation toward the operator and other personnel of such contaminants. Typically, it is not attached to any external exhaust system. A Ductless Hood is equipped with its own independent ventilation system which forces the contaminated air to travel through a filter and re-circulates it within the room.

3.1 Ductless Hood Scope of Application Defined

Ductless Hoods do not have the same scope of application as standard laboratory Fume Hoods, Biological Safety Cabinets, or potent compound hoods. Ductless Hoods are only suitable for use with identified, manufacturer approved applications.

4.0 Ductless Hood – Types

4.1 Ductless Hood Filtration Categories

4.1.1 DH I

A ductless hood equipped with a filtration device designed to control non-toxic chemicals, nuisance odors, particulates.

4.1.2 DH II

A ductless hood capable of meeting all DH I requirements, and equipped with a filtration device designed to filter manufacturer approved toxic contaminants up to filter break through only. A DH II ductless hood is not designed to provide secondary containment beyond primary filter break through.

4.1.3 DH III

A ductless hood capable of meeting all DH II requirements, and equipped with a filtration device designed to filter manufacturer approved toxic contaminants beyond primary filter break through by providing secondary back-up protection. Once the primary filter break through point has been detected a DH III ductless hood should be designed to provide a period of time to continue and end an ongoing experiment with its secondary back-up filter system. The secondary filter must be of the same type of media and efficacy, as the primary filter.

4.2 Manufacturer Approved Applications / Misuse Prevention - As Manufactured

4.2.1 Manufacturer's Performance Information

A Ductless Hood regardless of Category is limited by the capabilities of its filtration system. The manufacturer's performance information, must be supplied for each DH II and III Ductless Hood, and is designed to clearly outline manufacturer approved applications and usage limitations and shall at least include the following:

A definition of Ductless Hood Categories identical to the one outlined in these Recommended Practices.

A copy of the SEFA 9 test results for the "as manufactured" performance test for both filtration and containment as per section 4.3 validated by an independent recognizable third party, showing retention capacities in grams/ounces for each compatible filter type. For example, this would be the retention capacity of the filter as stated by the manufacturer prior to releasing 50% of the TLV/ PEL of the toxic contaminant for DH II and 1% of the TLV/PEL of the toxic contaminant for DH III.

4.2.2 Manufacturer Approved Application Questionnaire Form SEFA 9-A

Prior to approving usage, a qualified specialist or department within the manufacturer or supplier of the Ductless Hood should review all applications and determine for each the compatibility or incompatibility of the ductless hood by using form SEFA 9-A. Form SEFA 9-A is a standardized form designed to cover all pertinent questions regarding the intended usage of a ductless hood, and is necessary to determine and subsequently approve or deny usage.

The following list represents the minimum information to be provided by the customer:

- Date
- Customer's company name and address
- Customer contact name and phone#

- Intended application including list all equipment to be used inside hood
- Name of each material planned on being used and Chemical ID i.e., CAS#, EN#, etc.,
- Amount of each material
- Concentration of material i.e., full strength, dilute, percentage
- Frequency and duration of the application
- Temperature of material
- Type of container used and is the container covered or open
- Evaporation Rate
- Maximum potential spill volume
- Truthful and accurate statement

Completed by Manufacturer—Refer to § 5.3.1.

In the case of a manufacturer/supplier approved application, the resulting document shall provide all necessary information, as detailed in "As Used" section 5.3, for the correct use and maintenance of the ductless hood.

4.2.3 Filter Saturation Detection DH II/III

DH II and III Ductless Hoods require constant monitoring of filter saturation breakthrough and should be designed with a continuous audible and visual automatic saturation detection monitoring device able to detect all manufacturer approved toxic contaminants. The efficacy of the device should be such that when break through occurs, test measurements taken downstream from the filter must not exceed 50% of the TLV of the manufacturer approved toxic contaminant(s) for DH II Ductless Hoods and 1% of the TLV of the manufacturer approved contaminant(s) for DH III Ductless Hoods. The means necessary to insure the proper functioning and manual verification of the automatic filter saturation detection device should also be provided. The frequency of the verification shall be recommended by the manufacturer, but be the responsibility of the EH&S officer.

4.2.4 Face Velocity Monitoring DH II / III

A permanent face velocity monitoring device should be incorporated within all DH II and III ductless hoods. The monitoring device

should be calibrated by a face velocity traverse as recommended in ASHRAE 110-95 using the average as the set point. To ensure proper performance as recommended by the manufacturer testing should be performed at least annually.

4.3 SEFA 9 Benchmark Testing – As Manufactured

4.3.1 Filtration and Containment

DH I:

Nuisance odors only. No testing required.

DH II and III:

If manufacturers require more than one filter media type to perform the benchmark test chemicals, testing should then be performed using the appropriate filter media type.

Benchmark - Testing procedure:

This test is applicable to only Class II and Class III hoods. It is not intended for Class I type hoods used for nuisance and non toxic odors

Calibration of testing equipment— please refer to ASHRAE 110-95 for calibration guidelines.

Hood setup and face velocity measurements—the ductless hood shall be setup per manufacturer's recommendations in a location that has average cross draft of less than 30 fpm when measured 18 inches out from the face of the hood at the left and right side of the sash opening. Face velocity measurements are made by establishing an imaginary grid pattern equally divided in the vertical and horizontal positions and taking velocity readings at each grid point. Readings should be taken each second for a period of 30 seconds and averaged. Determine the average of each grid position. The measured deviation shall not vary more than +/- 20% of the overall average. Cross draft and airflow velocity measurements are made using a hot wire calibrated anemometer. Test each model (Type Test) or after modification to unit or filter. The hood face velocity shall be set by the ductless

hood manufacturer. (Refer to SEFA 1-2010 Section 4.3 and/or ANSI/ASHRAE 110-1995 6.2 Face Velocity Measurements or most current version).

Flow Visualization — discharge smoke from a smoke stick along the walls and work surface of the hood six inches back from the front of the unit. Smoke shall be carried to the back or top of the hood and be exhausted with little reverse movement. Particular attention shall be given to the corners. At no time shall smoke escape out the hood, except through the filtered exhaust. If smoke does escape out the front of the hood the hood fails the test. The filter seals and other areas of the hood where contaminate could escape shall be under negative pressure.

Containment Testing. (Refer to ASHRAE 110-1995 or most current version for specific details.) — place an exhaust duct with canopy style connection from an exhaust system with variable control over the exhaust port of the ductless hood. The exhaust system shall be set to exhaust a greater CFM than the ductless hood requires to keep any contaminants from the exhaust from leaking into the test room. Once the external exhaust system is operating, face velocity readings shall be retaken and match those previously taken with the external exhaust system off. If the face velocities have changed, reduce the exhaust system CFM to where there is no effect on the hood face velocities. The exhaust on the system must be great enough to keep the exhaust plenum area negative, but not so strong that the face velocities on the hood are affected.

Use an ITI Leak Meter or other continuous reading instrument specific for sulfur hexafluoride gas capable of 0.01 ppm detection or less.

Position the manikin in front of the hood, in a sitting position with the sampling probe 1.5" above the bottom of the sash and 3" out from the bottom sash edge. The sash shall be placed in the "designed sash position." The tracer gas test is run with the ejector placed 6 inches behind the plane of the face opening in three different positions. These positions are 12 inches from the right and left sides of the hood and at the center line of the hood. Release sulfur hexafluoride tracer gas at the rate of 4 liters/minute. Determine tracer gas concentration using leak meter or

other continuous reading instrument. Remove the manikin and scan the perimeter of the sash and airfoil of the hood using the leak meter probe, holding the probe approximately one inch from the hood opening. No leakage of tracer gas shall be greater than an average of 0.05 ppm in any position. Refer to ASHRAE 110-1995 for instrumentation, ejector construction and method details.

Filter Efficiency and Adsorption Capacity Tests — with the ductless hood setup per manufacturer's recommendation install the appropriate filter(s) for your test. Turn on the system and allow the hood to stabilize per manufacturer's instructions. Record relative humidity and temperature of laboratory before and after test. Temperature should be between 18°C to 22°C and relative humidity between 40% to 60%.

Evaporate one of the following listed chemicals at the indicated rates:

NIOSH Limits Chemical Family	TLV	Evaporation Rate
HCL	5 ppm	100 ppm
Diethyl Amine	10 ppm	50 ppm
Isopropyl	400 ppm	500 ppm
Toluene	100 ppm	150 ppm

The evaporation rate required is determined by calculating the mass rate of chemical needed to mix with the hood air flow (CFM) during test to create the indicated flow rates.

Suitable ways of evaporation are free surface evaporation without heat, heating the chemical in a container on a hot plate or addition of the chemical into a metal or ceramic cup heated by a hot plate using a peristaltic or other high precision positive displacement pump set to the required mass flow rate. Control the evaporation temperature to where degradation of the chemical does not occur. Example of evaporation temperature for toluene would be 140° C. Determine the evaporation rate of the chemical by weighing the container(s) before and after the evaporation, with an appropriate precision balance or scale and noting weight change per unit time. When using a pumping device to pump the chemical into a heated container the flow rate

of the chemical into the container determines the evaporation rate. When using a hot plate for evaporation caution must be taken to keep the hot plate temperature below the flash point of the chemical to prevent a fire or explosion or degradation of the chemical. **Do not use open flame to heat the containers.** If additional chemicals are tested and sufficient mass cannot be evaporated to reach a challenge level of TLV or greater, a lower challenge level may be permitted as long as it is the maximum level which can be reasonably obtained and the conditions of the test are recorded.

Monitor the concentration of the test chemical in the room, in the hood, before the filter and in the exhaust stream past the filter(s) under test by using a gas chromatograph, mass spectrometer, FTIR analyzer or PID detector. Manufacture is to determine sampling points. Exhaust sampling point must be located in an area that represents the actual concentration of the exhaust. Complete mixing at the sampling point must be validated. The instrumentation used shall have a minimum detection level of 1% of the TLV or less. In the case where hydrochloric acid is tested an ion chromatograph or FTIR is recommended. Colorimetric detection tubes do not have the necessary resolution to accurately determine the concentration of the chemicals and shall only be used for the determination of HCL, if FTIR or an ion chromatograph is not available. Continuous sampling of the exhaust for acid detection can be made by using a small pump to pull the exhaust sample through a general acid colorimetric tube for the purpose of acid detection, at the rate of approximately 1.5 l/min. When the general acid colorimetric tube begins to turn pink begin sampling exhaust with HCL acid colorimetric tube, 1-10 ppm, to determine the exhaust concentration. Follow manufactures sampling recommendation when sampling with the HCL acid 1-10 ppm tube.

Exhaust air from the hood must be sampled at 15 minute time intervals. For sampling of HCL acid using colorimetric tubes, sampling must begin two hours before the end point of the test is achieved. For hoods which incorporate a secondary filter means, the exhaust of the primary filter bed ONLY will be sampled, not the exhaust of the hood itself. Continue evaporation and exhaust

sampling until chemical concentration equals the inlet concentration or the TLV, whichever is lower. For each data point, record or calculate the mass of chemical evaporated as well as chemical concentration levels in the sampled air streams. Sample and record room concentrations at a sampling point one foot out from the center point of the sash. In cases where the time of testing goes beyond 8 hours, the hood and test apparatus shall be turned off and left in a stagnant mode until the next testing period. During this stagnate mode, the hood shall be disconnected from any active exhaust systems to prevent airflow through the filters. At the beginning of the next test period record and graph all data. Be certain chemical containers are sealed to prevent evaporation. The test output shall be a table or graph of the mass of the test chemical evaporated plotted as the x-axis vs. the concentration in ppm of the chemical concentration found in the hood exhaust on the y-axis. Conditions of the test are to be provided on the graph or separate list that includes temperature and humidity of the test room, CFM and face velocity, evaporation rate, grade and concentration of the chemical, current listed TLV, start and stop of the test, amount of filter media and type, method of evaporation, inlet concentration and total test time. The name and model number of the unit tested is also to be provided with the report.

4.3.2 Independent testing and validation

The manufacturers' benchmark testing as described in 4.3.1 shall be validated by an independent recognizable third party. Manufacturers should include a copy of the third party testing in their technical manual.

4.4 Markings

Ductless Hoods should be clearly identified with the words "DUCTLESS HOOD" prominently displayed in large letters on the front of the product in order to differentiate them from conventional ducted Fume Hoods.

DH ratings, identified in this work practice as DH I, II and III, should also be prominently displayed in large letters on the front of the product, along with reference to SEFA 9. The DH I Ductless Hood

label should contain a message noting their inability to provide protection for anything other than nuisance odorous compounds. The DH II Ductless Hood label should contain a message requiring the immediate suspension of usage at the time of saturation detection.

An area on the Ductless Hood should be provided in plain view for the placement of form SEFA 9-A. If removed the form shall let the following words appear: "NOT RECOMMENDED FOR USE WITHOUT CURRENT APPLICATION APPROVAL FORM SEFA 9-A IN PLACE."

A sticker stating the recommended sash/door position should be placed on the enclosure. The label should also indicate if the ductless hood is only able to achieve SEFA 9 containment compliance in a specific position. The filtration device type and name should appear in plain view and be easily identifiable by the operator.

5.0 Ductless Hoods – As used

5.1 Safe Work Practices

Operators should use Ductless Hoods in accordance with their organization's safety guidelines and have a clear understanding of the limitations and capabilities of their Ductless Hood prior to usage. Always refer to completed SEFA 9A prior to usage. Also refer to current SEFA 1-2010 Section 6 for applicable general safe usage recommendations.

5.2 Recommended Usage Precautions

In general, Ductless Hoods are not recommended for usage with unknown chemicals or reactions. Ductless Hood usage should be limited to manufacturer approved applications only (section 5.3).

5.2.1 DH I

DH I Ductless Hoods should only be recommended for use with applications that would normally be performed on the open bench

without protection. DH I Ductless Hoods should not be used with toxic contaminants

5.2.2 DH II

DH II Ductless Hoods should not be recommended for use unless their application has been pre-approved by the manufacturer/supplier using form SEFA 9-A, which should be posted on the ductless hood at all times in accordance with section 5.3.

DH II Ductless Hoods should not be recommended for use with toxic contaminants that do not have a reported TLV/PEL value.

DH II Ductless Hoods should only be recommended for use with applications where continuous monitoring and detection of filter break through is available

Since a DH II Ductless Hood provides protection only up to filter break through, its use must be suspended once filter break through detection occurs. Refer to section 4.2.3

5.2.3 DH III

DH III Ductless Hoods should not be recommended for use unless their application has been pre-approved by the manufacturer/supplier using form SEFA 9-A in accordance with section 5.3.

DH III Ductless Hoods should only be recommended for use with applications where permanent monitoring and detection of filter break through is available. Refer to section 4.2.3

5.3 Manufacturer Approved Applications – As Used

The manufacturer or supplier of the Ductless Hood should approve all applications prior to usage. The Ductless Hood operator should limit their usage to the manufacturer approved applications only. The notion of dedicating a Ductless Hood to a specific manufacturer approved application plays a crucial role in insuring safe Ductless Hood usage. The formal response form SEFA 9-A given to the Ductless Hood operator is a necessary document as it represents an agreed upon understanding of

correct dedicated use between the supplier and the operator. It is therefore required for Ductless Hood manufacturers/suppliers to integrate within their organization the means necessary to scientifically approve each potential application.

It is the responsibility of the end user to advise the manufacturer of the Ductless Hood and gain the approval of all applications in writing prior to usage.

5.3.1 Manufacturer Approved Application Questionnaire Form SEFA 9-A

Form SEFA 9-A is a standardized form designed to answer all pertinent questions regarding the intended usage of a ductless hood and ultimately guide the end-user in the correct use of their ductless hood. In the case of a manufacturer/supplier approved application, form SEFA 9-A should be posted in the space provided on the ductless hood at all times. Response form SEFA 9-A should include:

- The application approval reference number;
- The approved application and corresponding list of approved toxic substances;
- The approval date;
- The approved filter type;
- The estimated filter life;
- The filtration system date of first use and estimated date of replacement;
- Information regarding the automatic filter saturation detection system;
- The model and serial number of the ductless hood;
- A warning dedicating the ductless hood to the approved application only;
- A warning for Category II ductless hoods indicating the need to stop the procedure immediately following filter saturation detection;

5.4 Dedicated Usage / Change of Application Procedures / Monitoring

Ductless Hood operators should limit their usage to manufacturer approved applications only, as shown on Form SEFA 9-A.

Operators shall obtain prior written re-approval from the manufacturer every time an application varies in any way from the initial approved usage. There is no difference between a change of application and a new usage qualification.

5.5 Dedicated Usage Markings – As used

Manufacturer approved application form SEFA 9-A should be posted in the place provided on the ductless hood at all times. A current form shall replace the previous form every time an application varies from the initial manufacturer approved application.

5.6 Contaminated Filter Handling Procedures

The waste disposal method for your contaminated filters depends on the type of toxic contaminant(s) introduced into the filter by the Ductless Hood operator. The operator should contact the individual or department within their organization responsible for controlling the disposal of all hazardous waste. The filter should be removed in accordance with local ordinances.

6.0 Ductless Hoods – As Installed

6.1 A test protocol must be provided by the manufacturer for DHII and DHIII hoods to verify that the unit is functioning to manufacturer's specifications. The "As Installed" test protocol must be sufficient to validate manufacturer's claims for face velocity, base containment, filter sealing and instantaneous filtration, as well as verifying the display of face velocity and emissions monitoring systems.

Manufacturer's may make available, either for sale or loan, testing kits and instruction manuals to allow users or third party certifiers to carry out test protocols in the field.

The test protocol must include:

1. Test procedure for verifying face velocity of hood. Procedure should include requirements for testing the recommended face velocity

settings if face velocity adjustment is provided by the control system.

2. Test procedure for verifying base containment using smoke stick or other form of flow visualization.

3. Test procedure for verifying filter seals and instantaneous removal of contaminant by primary filter pack for DHII and DHIII hoods and secondary filter pack for DHIII hoods.

- (a) If surrogate chemical challenge is specified, the recommended chemical must be of low toxicity and readily available for use, i.e. isopropyl alcohol or similar. Chemical surrogate should be of same chemical family as the chemical for which the hood was specified, if possible.

- (b) Test should not require a large amount of chemical to be adsorbed, as not to shorten filter life.

Test procedure to verify operation of all monitoring systems.

- (a) Face velocity monitors may be verified simultaneously with actual face velocity test above.

- (b) Test procedure should contain provisions for verifying alarm functions.

6.2 Frequency of Testing

The Manufacturer should specify the events which would trigger the need of such testing. At a minimum, the tests should be conducted:

After initial installation but BEFORE first use.
After major repair or refurbishment of hood.
After relocation of hood.

It is the responsibility of the user facility EH&S officer to establish test plans to verify proper function during the life of the unit.

7.0 Reference Organizations

7.1 Filtration and Exposure Limitations

(USA) ANSI/AIHA Z9.5 - 2003

(USA) NIOSH Pocket Guide to Chemical Hazards

(USA) OSHA Regulation 1910.1450

(CANADA) CSA Z316.5 -1994

(FRANCE) AFNOR NFX 15-211

(AUSTRALIAN) Re-circulating Fume Cabinets AS
2243.9

7.2 Containment

(USA) ASHRAE 110-95

(FRANCE) AFNOR NFX 15-210

(U.K.) XP X 15-203

(GERMANY) DIN 12 924

SEFA FORM 9-A - Application Questionnaire (See SEFA 9-2010 §4.2.2)											
Customer :											
Address:											
Contact:		Phone:							Date:		
Description of Application: <i>(Customer to describe the process to be performed inside the hood including all equipment to be used inside hood)</i>											
Completed by Customer							Completed by Manufacturer				
Chemical ID (ie., CAS#, EN#, etc.)	Amount	Concentration	Frequency/ Duration	Temperature	Container Type— Covered/ Open	Evaporation Rate	Maximum Potential Spill Volume	Exp Reference	Exp Limit	Limit Type	MSDS
I, _____, in my capacity as _____ of _____, certify to the best (Print Name) of my knowledge that all data and information submitted in this Application/SEFA Form 9-A, is truthful and accurate and that no material fact has been omitted.											
										(Signature)	
										(Date)	



SEFA FORM 9-A—Manufacturer's Response

(See SEFA 9-2010 § 5.3.1)

Manufacturer's Name: _____ Approval Reference No.: _____
Address: _____ Model and Serial No. _____
Manufacturer's Approved Filtration Category: ☐ DH I ☐ DH II ☐ DH III
Filtration System Date of First Use _____ Estimated Replacement Date _____
Phone: _____ Approved Filter Type _____ Estimated Filter Life _____

Approved Application: *(Manufacturer to provide information regarding the automatic filter saturation detection system as well as the list of approved toxic substances)*

Application: ☐ Approved

Print Name: _____

☐ Disapproved

Signature: _____

Date: _____

— WARNINGS —

- DUCTLESS HOOD OPERATORS SHALL LIMIT THEIR USAGE TO MANUFACTURER APPROVED APPLICATIONS AS SHOWN ON THIS SEFA FORM 9A.

- OPERATORS SHALL OBTAIN PRIOR WRITTEN RE-APPROVAL FROM THE MANUFACTURER EVERY TIME AN APPLICATION VARIES IN ANY WAY FROM THE INITIAL APPROVED USAGE. THERE IS NO DIFFERENCE BETWEEN A CHANGE OF APPLICATION AND A NEW USAGE QUALIFICATION.

- CATEGORY II DUCTLESS HOODS MUST STOP PROCEDURE IMMEDIATELY FOLLOWING FILTER SATURATION DETECTION.