

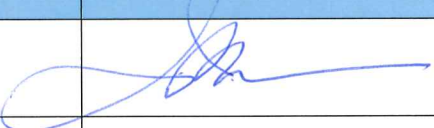





Standard Operating Procedure
Ductwork Cleaning – Level 2

SOP #: 5.038 Rev. 4

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Approval

<i>Approving Authority</i>	<i>Name</i>	<i>Signature</i>	<i>Date</i>
President	Joseph Parisi		1/20/17
Operations Manager	Steve Hansen		01/19/17
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Revision History

<i>Revision #</i>	<i>Description of Change</i>	<i>Effective Date</i>	<i>DCR#</i>
2	Data modifications	07/07/00	-
3	Data modifications	11/05/07	07003
4	Add Revision History, Revise Header, Data Modifications	01/20/17	17003



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- 1 Purpose
 - 1.1 To establish a standard procedure for cleaning ductwork serving critical classified (100 to 100,000) clean manufacturing spaces.
- 2 Scope
 - 2.1 This cleaning procedure applies to prefabricated round duct and fittings as well as custom rectangular fittings and joints.
- 3 Responsibility
 - 3.1 Quality Assurance shall audit the following procedures periodically.
 - 3.2 Project Manager shall oversee the following procedures.
 - 3.3 Sheet metal superintendent shall perform duct cleaning examination.
 - 3.4 Sheet metal foreman shall perform the following procedures.
- 4 Procedures
 - 4.1 Ensure that both supply and return air ductwork associated with these critical areas are clearly identified to the sheet metal fabrication shop.

Note: The following procedures may be performed either at the fabrication shop or at the job site. If performed extensively at the job site, temporary dust screens must be employed to reduce airborne silt from entering the ductwork.
 - 4.2 Examine each section of duct for fabrication quality.
 - 4.3 Remove heavy greases and dark markers on the ductwork sections with a heavy duty cleaner and citrus degreaser (i.e. Big Orange-E).

Wash

- 4.4 Mix IPA solution with water to achieve approximately a 50% alcohol concentration in a container.
- 4.5 Pour the diluted IPA mixture into a dedicated spray bottle with proper label.



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- 4.5.1 When washing large ductwork, mix IPA solution with water to achieve approximately a 50% alcohol concentration in a dedicated bucket.
- 4.6 Spray the IPA mixture directly on to the entire inside surfaces of the ductwork.
 - 4.6.1 When washing large ductwork, submerge a dry clean room grade mop into the diluted IPA mixture bucket.
- 4.7 Wipe the entire inside surfaces of the ductwork with a clean room grade wiper. Constantly fold over the wiper so that the duct is seeing new and clean material.
 - 4.7.1 When wiping the large ductwork, use a clean room grade mop.
- 4.8 After cleaning, wipe the entire inside surfaces of the ductwork with a clean dry white wiper to examine periodically the effectiveness.
 - 4.8.1 When wiping the large ductwork, use a clean room grade mop. Ensure that not dirt is on the mop.
- 4.9 Repeat steps 4.6 - 4.8 or 4.6.1 - 4.8.1 until no dirt is found on the wiper or mop.
- 4.10 Wait until the ductwork is totally dry and then notify sheet metal superintendent to perform duct cleaning examination.
- 4.11 Sheet metal superintendent shall examine the cleaning quality.
- 4.12 Once the cleaning examination is passed. Sheet metal superintendent shall record the examination results on Duct Cleaning Log, FN 5.025.2. Sheet metal foreman shall perform the following steps once the cleaning examination is passed. If the cleaning examination is not passed, sheet metal foreman shall perform wash process as described in Steps 4.4 to 4.11.
- 4.13 Seal off duct sections after cleaning with protective coverings to prevent damage or soiling by construction activity.
 - 4.13.1 Wrap duct openings with adhesive polyethylene sheet material, 0.002 inches ('2 mil') thick or thicker.



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4.13.2 The protective wrap should be removed only during installation. There should not be open ductwork either on the ground or after being hung.

4.14 If the protective wrap has been prematurely removed and the duct fitting is on the job site unprotected, examination must be performed prior to installation of additional fittings or joints. If necessary, repeat steps 4.4 to 4.13.

5 Review and Approval

5.1 The concentration of IPA mixture solution shall not be less than 50% during the cleaning process.

5.2 Under normal conditions mops shall be changed every other day. However, with excessive duct cleaning change mop twice daily.

5.3 Sheet metal superintendent shall submit the duct cleaning log, FN 5.025.2 to project manager for review.

5.4 Project manager shall review the duct cleaning log, FN 5.025.2 and submit to customer for record.