DRYER EXHAUST DUCT Performance (DEDP)

THE NADCA STANDARD

For Measuring Residential Dryer
Exhaust Duct Performance

2014

NADCA

Standard for Measuring Residential Dryer Exhaust Duct Performance

The Industry Standard Developed by the National Air Duct Cleaners Association (NADCA)

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The National Air Duct Cleaners Association (NADCA) has developed and published the Standard for measuring residential dryer exhaust duct performance. The Standard is designed to test the performance of newly constructed dryer exhaust duct systems and existing dryer exhaust duct systems that have been visually inspected and confirmed to be clean. The Standard is also intended to assist individuals and entities in establishing and maintaining their professional competence while working in the dryer exhaust duct service industry. All persons using the Standard must be, and remain, updated and informed about developments in the dryer exhaust duct service industry so that they may implement changes in technology and procedures as appropriate, as well as adhere to all applicable federal, state, provincial, and local laws and regulations. Since every project is unique, in certain circumstances, common sense, experience, and professional judgment may justify a deviation from the information provided in the Standard. Furthermore, this Standard is not intended to be either exhaustive or inclusive of all pertinent requirements, methods, systems, or procedures that might be appropriate on a particular job. The information upon which this Standard is based is subject to change, which may modify, supplement or invalidate any or all of the information contained herein.

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FOREWORD

A key concept that must be understood when using this Standard is a guiding principle that the *NADCA Dryer Exhaust Duct Performance (DEDP)* Test shall be performed on dryer exhaust ducts that have been visually inspected and confirmed to be clean. Testing methodology of this Standard was created using a pressurized blower test to determine that the dryer exhaust duct is functioning correctly in its current installed condition. This document will help the contractor and consumer obtain reliable information and measurable outcomes in order to identify conditions that may be causing performance failure. Refer to the appendix of this document for "Conditions That May Cause Performance Issues."

For purposes of this Standard, video inspection is not the primary inspection procedure. Dryer exhaust duct service companies may send cable type video cameras through the dryer exhaust duct to visually validate the internal surface cleanliness. It must be understood that visual inspections do not replace the performance criteria of this Standard. This Standard determines if the installed dryer exhaust duct moves the minimum amount of airflow, compensating for flexible transitions, leaky elbows, leaky ducts, broken connections, frictional losses and a number of other conditions. When dryer exhaust ducts fail to meet the minimum pressure and velocity criteria, video cameras are then recommended to further diagnose the potential issues.

This Standard is a living document that is subject to change as more information regarding the dryer exhaust duct service industry becomes available and advancements are made in technology and practice. This performance Standard will be reviewed, evaluated, and validated through application in the field and thereafter revised and improved as deemed necessary.

GENERAL

INTRODUCTION

This Standard is a residential single-dryer exhaust duct performance Standard that is used to determine if the dryer exhaust duct system meets minimum requirements for operation as specified by this Standard.

Moisture and lint, byproducts of the clothes drying process, are transported by drawing ambient air from outside the dryer and channeling the air through electric or gas heating components. The air then passes through the dryer drum where moisture and lint enter the airstream. Air flows through the dryer's lint filter to the internally powered fan device and is discharged from the dryer appliance. At this point all airflow activity has occurred within the dryer appliance.

Next, the air exhausts the dryer through the dryer exhaust duct system, discharging to an exterior termination device. A typical dryer exhaust duct system is comprised of a flexible transition duct behind the dryer, 4" round (100 mm) rigid galvanized pipe, galvanized elbow fittings and a dryer exhaust duct termination device located outside the home.

A clean, unobstructed dryer exhaust duct system improves operating efficiency of the dryer appliance. As the dryer duct becomes obstructed with collected lint, drying time increases and the dryer can overheat, increasing energy consumption. In extreme cases, a blocked dryer exhaust duct or termination device can result in a fire within the dryer appliance or within the dryer exhaust duct system.

Manufacturers of dryer appliances have long specified that dryer exhaust duct systems must be serviced on a regular basis to remove accumulated deposits of lint. Several factors can contribute to accelerated lint accumulation or restrictions within the dryer exhaust duct system. These include extended duct lengths, restricted ducts, bird or rodent nests in the termination, crushed or kinked flexible transition duct, terminations with restrictive screen-like features, and condensation accumulations within the duct (due to non-insulated ducts traveling through cold spaces such as a crawl space or attics) and incorrect pitch.

Dryers discharge moisture laden air and lint to the outdoors, therefore dryer exhaust ducts pose little to no indoor air quality issues beyond drawing exhaust air from the surrounding environment. Restricted dryer exhaust duct systems can create fairly serious operational performance issues. In addition to accumulated lint, improperly installed dryer exhaust ducts can condense water inside the duct, and in some cases will contain accumulated liquid water as well. This condition, combined with lint, can result in cementitious masses adhering to the inside of the dryer exhaust duct system.

PURPOSE

It is the purpose of this Standard to define a measurable methodology for verifying residential-type dryer exhaust duct performance.

SCOPE

The DEDP test device will be utilized in the performance of the *NADCA Dryer Exhaust Duct Performance (DEDP) Test*. The dryer appliance and existing transition duct are not included as part of this Standard.

APPLICATION

This Standard establishes a repeatable consistent criteria to evaluate the performance of dryer exhaust ducts that have been visually inspected and confirmed to be clean. These performance measurements and implementation protocols were developed primarily to identify if other conditions potentially exist that may be affecting the dryer exhaust duct efficiency. This Standard may apply to other materially interested parties (e.g., property owners and managers, insurance company representatives, government and regulatory bodies) when servicing residential type dryer exhaust ducts. The performance protocol data for the dryer exhaust duct has been developed in accordance with dryer exhaust ducts installed according to local, state, and federal codes (IMC and IRC Code).

There exists a wide range of air velocity and pressure differentials between older model and new, high efficiency, internally-powered fan devices. New generation dryers use higher blower strengths. Too many variables exist to support a single performance test using the internally-powered fan of the dryer appliance itself. Therefore, due to the wide variety of blower strengths affecting duct velocity and back pressure, a new method was developed to consistently test dryer exhaust ducts. In order to compensate for these in field variations, the committee developed a new device and protocol that provides a reliable, consistent measuring methodology across all dryer exhaust ducts regardless of the dryer type or the power of the internal fan device. The development of this device and procedure was only possible because virtually all residential type dryer vents are 4" in diameter.

QUALIFICATIONS

This performance Standard test protocol requires that the *NADCA Dryer Exhaust Duct Performance (DEDP) Test* shall be performed on dryer exhaust ducts that have been visually inspected and confirmed to be clean. This performance Standard is the method of validating airflow combined with back pressure after the service has been completed.

LIMITATIONS

This Standard does not include an assessment of cleanliness within the dryer appliance. This Standard does not specifically address any and all hazards or risks that could be encountered when performing work in accordance with this document. Instead, the user is directed to rely on the Authority Having Jurisdiction (AHJ), and the manufacturer's guidelines.

Section 1 – Pre-Test Inspection

1.0 **Overview:** The following provides instruction for inspection prior to conducting the *NADCA Dryer Exhaust Duct Performance (DEDP) Test*.

1.1 **Pre-Test Verification:** Confirm that the dryer exhaust duct is clean prior to performance testing.

1.2 **Implementation Evaluation:** The following components or areas *shall* be accessible to perform the *NADCA Dryer Exhaust Duct Performance (DEDP) Test*.

1.2.1 Existing Transition duct (requires moving or removal of dryer).

1.2.2 Transition duct connection to the dryer exhaust duct connection.

1.2.3 Termination Penetration: The location (exterior wall, eave or roof) where the dryer exhaust duct discharges to access the termination device and the termination barrier.

1.3. **Components Visual Condition:** Visual observations shall be conducted prior to implementing the *NADCA Dryer Exhaust Duct Performance (DEDP) Test*. These visual observations shall determine if:

1.3.1 Non-adhered lint has been removed.

1.3.2 Adhered substances within the permanent exhaust duct are present.

1.3.3 The dryer exhaust duct is deformed, damaged or crushed.

1.3.4 The termination device damper is in place.

1.3.5 The termination device barrier is visually free from lint.

1.3.6 Significant signs of leakage are apparent.

1.3.7 If any of the conditions under Section 1.3 are identified through a visual observation, it is recommended the *NADCA Dryer Exhaust Duct Performance (DEDP) Test* not proceed until the condition has been remedied or reported.

1.4 **Length of Duct:** Short (less than 6') and straight dryer exhaust ducts with no turns that are capable of visual inspection for the entire duct length shall also require the *NADCA Dryer Exhaust Duct Performance (DEDP) Test* to check the functionality and restrictive potential of the termination device damper.

1.5 **Contiguous Diameter:** The *NADCA Dryer Exhaust Duct Performance (DEDP) Test* shall only be performed on dryer exhaust ducts with a 4" diameter. The dryer duct's diameter must be contiguous from the dryer transition point to the external termination device.

1.6 **Dryer Duct Booster Fan:** It shall be determined if a dryer booster fan is present and operational before performing the *NADCA Dryer Exhaust Duct Performance (DEDP) Test*.

1.7 **Secondary Lint Traps:** It shall be determined if a secondary lint trap is present and is clean before performing the *NADCA Dryer Exhaust Duct Performance (DEDP) Test*.

1.8 **Estimate the Developed Length:** Estimate the total developed length of the permanent dryer exhaust duct. The actual length shall be determined during the cleaning process through the use of measured fiberglass cleaning rods, cable drives, or air whipping tools.

1.8.1 Refer to Table 504.6.4.1 on page 13 of this document.

1.8.2 Inspect the current system's connections and configurations. Estimate the total run length of the permanent exhaust duct which would include the total amount of hard pipe (in feet) along with the number of hard elbows (quantity) in the dryer exhaust run.

1.8.3 Per IMC and IRC specifications, each hard elbow shall be counted as 5' of hard pipe when estimating the total run length.

1.8.4 Document if the dryer is venting to the side, roof, or soffit of the house.

1.9 **Code Compliance:** Verify that the transition duct is in compliance with local, state and federal code or Authorities Having Jurisdiction (AHJ). The consumer must be informed what type of transition duct is not in compliance.

Section 2 – Performance Test Equipment

2.0 **Overview:** The following are required for the *NADCA Dryer Exhaust Duct Performance (DEDP) Test*.

2.1 **Booster Fan Specifications:** Booster fan with 113-watt motor and sealed bearing system designed for continuous use; 4" inlet and outlet for ducting, generating 2,910 RPMs, true rated air volume at 190 CFM.

2.2 **Differential Pressure Gauge:** The gauge range must be capable of measuring between 0 – 2.0 water column inches (wc).

2.2.1 Digital manometers can be used instead of the analog differential pressure gauge.

2.3 **Pressure Tap Fitting:** A fitting (permanent or temporary) that allows a differential pressure gauge's connection tube to read internal pressure differential within the test duct.

2.4 **Pressure Tap Fitting Connection Tubing:** 1/8" inside diameter and 1/4" outside diameter tubing. This tubing connects the differential pressure gauge's pressure port to the test duct.

2.5 **Test Duct:** The test duct used for the *NADCA Dryer Exhaust Duct Performance (DEDP) Test* must have a continuous 4" interior diameter whether compressed or stretched and be in compliance with Authorities Having Jurisdiction (AHJ).

2.5.1 This section of test duct is used to connect the *NADCA Dryer Exhaust Duct Performance (DEDP) Test* fan to the permanent exhaust duct coming out of the wall.

2.5.2 Length of Test Duct: Test duct should be no longer than required to connect the testing device to the dryer exhaust duct connection with minimal turns or bends.

2.6 **Rotating Vane Anemometer:** A rotating vane anemometer with a **minimum** measurement range in velocity from 50 to 2000 fpm 0.25 to 30 meters per second (m/s). The anemometer shall report in the scale of feet per minute (fpm).

Section 3 - Performance Test Implementation

3.0 Overview: The following provides instruction on how to perform the *NADCA Dryer Exhaust Duct Performance (DEDP) Test*.

3.0.1 The *NADCA Dryer Exhaust Duct Performance (DEDP) Test* is designed to test dryer exhaust duct that has been visually inspected and confirmed to be clean.

3.0.2 The *NADCA Dryer Exhaust Duct Performance (DEDP) Test* shall never be performed using the dryer blower.

3.1 Testing the Static Pressure

3.1.1 Step 1: Disconnect the dryer from the wall. Remove the connection of the existing transition duct from the 4" port coming from the drywall. This should provide clear access to the 4" port leading to the start of the permanent exhaust duct.

3.1.2 Step 2: Place tap fitting in test duct. Remove existing transition duct and replace with the test duct. Install a tap fitting at the top section or outside bend of the flex located half way between the test duct. (Example: When using a 4' test duct, the tap fitting should be installed at the 2' mark towards the top, center of the duct or part of an outside bend).

3.1.3 Step 3: Hook up pressure differential gauge to the pressure tap fitting. Place one end of the clear plastic tubing on the exposed tip of the pressure tap fitting. Place the other end of the plastic tubing on the pressure differential gauge's positive pressure input.

3.1.3.1 Non-digital pressure differential gauges shall be sitting vertically and upright for accurate readings.

3.1.3.2 The tubing is at least 4-6' long, allowing the pressure differential gauge to rest on any flat surface during the actual performance test.

3.1.4 Step 4: Connect the dryer exhaust duct testing device. The dryer exhaust duct testing device blower should be connected to one end of the test duct that now has an installed pressure tap fitting.

3.1.5 Step 5: Attach the test duct with installed tap fitting to the 4" dryer exhaust port in the drywall. Use worm-drive clamps (or equivalent) to ensure a secure connection to the hard pipe in the wall.

3.1.6 Step 6: Energize the dryer exhaust duct testing device. Turn on the device by plugging in the 110 outlet or engaging the "on/off" switch if available. Allow the device to run for at least one minute.

3.1.6.1 When the dryer exhaust duct has an inline booster fan installed, allow adequate time for the booster fan pressure switch to engage, which typically takes 30 seconds to one minute after energizing the blower fan testing device.

3.1.7 Step 7: Record the pressure differential reading. After the test device pressure stabilizes, record the reading on the pressure differential gauge which should be reported in water column inches (wc) between 0.0 and 2.0 wc.

3.2 Testing Airflow Velocity and Documentation

3.2.1 Step 8: Document the airflow velocity at the system's exterior termination point. Establish the dryer exhaust duct's airflow velocity using the rotating vane anemometer. Readings shall be taken from the airflow discharged from the termination device and documented in feet per minute (fpm).

3.2.1.1 A minimum of three readings should be taken in various positions (e.g., top, bottom, and side of the terminations). Record the maximum reading found during the airflow velocity testing.

3.2.2 Step 9: Compare the recorded data to the performance tables. Once the back pressure in water column inches (wc) and airflow velocity at the termination point (in feet per minute) has been documented, compare this data with Performance Tables 4.9 and 4.10 in this Standard document.

3.2.2.1 If either back pressure readings and/or airflow velocity results fall below minimum requirements, reference the Appendix section of this Standard document for a list of conditions that may be causing dryer exhaust duct performance issues.

Section 4 – Performance Test Documentation and Results

4.0 Overview: The following provides instruction for documenting the *NADCA Dryer Exhaust Duct Performance (DEDP) Test* results. Documentation takes place after the *NADCA Dryer Exhaust Duct Performance (DEDP) Test* has been performed and acts as a summary of findings.

Information recorded includes estimated developed length of the dryer exhaust duct, actual back pressure readings, and maximum airflow velocity readings. These data points are cross-referenced to Performance Tables in sections 4.9 and 4.10 of this Standard document to determine whether or not the residential dryer exhaust duct system allows for optimal venting performance.

4.1 Record Estimated Developed Length of the Dryer Exhaust Duct: During pre-inspection for the *NADCA Dryer Exhaust Duct Performance (DEDP) Test*, technicians must estimate and record the total run length of the permanent dryer exhaust duct as indicated in Section 1.8 of this Standard.

4.1.1 Estimated total run length includes the total amount of hard pipe (in feet) along with the number of hard elbows (quantity) in the dryer exhaust run.

4.1.2 In accordance with IMC and IRC specifications, each hard elbow counts as 5' of hard pipe when estimating the total run length. Reference Table 504.6.4.1 for the elbow's equivalent length conversion.

4.2 Record actual back pressure in water column inches (wc): Record the specific back pressure level in water column inches (wc) as identified during the *NADCA Dryer Exhaust Duct Performance (DEDP) Test*. The data should yield a value between 0.0 – 2.0 wc.

4.3 Record the maximum airflow velocity at the termination point: Record the highest airflow velocity reading found in feet per minute (fpm) as taken at the termination point during the *NADCA Dryer Exhaust Duct Performance (DEDP) Test*.

4.4 Record the type of transition duct installed: After performing the *NADCA Dryer Exhaust Duct Performance (DEDP) Test*, the dryer will need to be reconnected to the wall using transition duct. Whether using the customer's existing transition duct or if a new section has been offered, record the type of transition duct being used to reconnect the dryer after the *NADCA Dryer Exhaust Duct Performance (DEDP) Test* is completed.

4.5 Record if visual observations indicate that adhered substances are present: If an adhered substance is present, indicate and record what was found.

4.6 Cross-reference the three main data points: Using the information collected from the *NADCA Dryer Exhaust Duct Performance (DEDP) Test* as outlined in Section 4.0 of this Standard, analyze the data based upon the standard's performance parameters as listed in Performance Tables 4.9 and 4.10. This analysis will lead to a "pass" or "fail" result for the dryer exhaust duct's performance.

4.6.1 Reference the table that most accurately represents the job based on the exhaust's termination location. A separate table is used for roof terminations and side wall terminations.

4.7 Determine if the dryer exhaust duct passes the *NADCA Dryer Exhaust Duct Performance (DEDP) Test*: If the back pressure and/or the airflow velocity data lead to a "fail" result based on total developed length and the termination location, reference the Appendix section of this Standard document for a list of conditions that may be causing dryer exhaust duct performance issues.

4.8 Provide recommendations: The technician may elect to offer additional solutions and/or services to improve the dryer's exhaust duct performance based upon the results of the *NADCA Dryer Exhaust Duct Performance (DEDP) Test*.

4.8.1 The technician may elect to perform the *NADCA Dryer Exhaust Duct Performance (DEDP) Test* again after solutions and/or services are provided.

TABLE 504.6.4.1
2012 INTERNATIONAL MECHANICAL CODE®

Dryer Exhaust Duct Fitting Type Equivalent Length

Dryer Exhaust Duct Fitting Type	Equivalent Length
4" radius mitered 45 degree elbow	2 feet 6 inches
4" radius mitered 90 degree elbow	5 feet
6" radius smooth 45 degree elbow	1 foot
6" radius smooth 90 degree elbow	1 foot 9 inches
8" radius smooth 45 degree elbow	1 foot
8" radius smooth 90 degree elbow	1 foot 7 inches
10" radius smooth 45 degree elbow	9 inches
10" radius smooth 90 degree elbow	1 foot 6 inches

2012 INTERNATIONAL MECHANICAL CODE®

504.6.4.2. Manufacturer's instructions
The maximum length of the exhaust duct shall be determined by the dryer manufacturer's installation instructions. The code official shall be provided with a copy of the installation instructions for the make and model of the dryer. Where the exhaust duct is to be concealed, the installation instructions shall be provided to the code official prior to the concealment inspection. In the absence of fitting equivalent length calculations from the clothes dryer manufacturer, Table 504.6.4.1 shall be used.

4.9 Performance Table - Side Wall

Terminations: Minimum requirements for side wall terminations.

Total "Developed" Length	Back Pressure (wc)	Airflow Velocity (fpm)
10'	< 0.30	1700
20'	< 0.55	1600
30'	< 0.65	1500
40'	< 0.75	1300
50' +	<0.8	1200

4.10 Performance Table - Roof Top

Terminations: Minimum requirements to be used for roof top terminations.

Total "Developed" Length	Back Pressure (wc)	Airflow Velocity (fpm)
10'	< 0.50	1700
20'	< 0.75	1600
30'	< 0.85	1500
40'	< 0.95	1300
50' +	<1.00	1200

DEFINITIONS

Actual Length: The total measured length of the dryer exhaust duct.

Adhered Substance: A material that is not removable by direct contact with a brushing device using silicon carbide bristle.

Cementitious: Any various building materials which may be mixed with a liquid such as water to form a cement-like substance.

Debris: Non-adhered substances not intended to be present within the dryer exhaust duct system.

NADCA Dryer Exhaust Duct Performance (DEDP) Test: The testing methodology developed by NADCA to measure dryer vent performance after servicing.

Developed Length: The actual length of duct added to the equivalent length of all installed dryer exhaust duct fittings. The virtual lengths are derived from a standardized table on frictional loss within the IMC and IRC Code for hard turns of 90 and 45 degrees.

Differential Pressure Gauge: An instrument that is used to show the relative pressure difference. For the purpose of this Standard the gauge shall have a range of 0.0 to 2.0 inches of water column (wc).

Dryer: An appliance that removes moisture by forced draught, heating, or centrifuging.

Dryer Exhaust Duct Connection: The point at which the transition duct connects to the dryer exhaust duct.

Dryer Exhaust Duct: Exhaust ducts that have a smooth interior finish, are constructed of metal, and are 4" (102 mm) nominal in diameter.

Dryer Exhaust Duct Testing Device: NADCA-designed device used to connect to a dryer exhaust duct to generate consistent pressure and velocity using a known constant.

Equivalent length: The resistance of a flexible transition duct, elbow, bend, fitting, or other obstruction to flow, expressed in the number of feet of straight duct or pipe of the same diameter that would have the same resistance.

Exhaust Penetrations: Point at which a dryer exhaust duct passes through a wall or ceiling membrane.

Flexible Transition Ducts:

> **Class 0** – Transition ducts and air connectors are those ducts having surface burning characteristics of zero.
>
> **Class 1** –Transition ducts and air connectors are those having a flame-spread index of not over 25 without evidence of continued progressive combustion and a smoke-developed index of not over 50.

Inspection: A gathering of information for use in making determinations and assessments.

International Mechanical Code (IMC): The IMC is a model code that regulates the design and installation of mechanical systems, appliances, appliance venting, duct and ventilation systems, combustion air provisions, hydronic systems and solar systems.

International Residential Code (IRC): The IRC is a comprehensive, stand-alone residential code that creates minimum regulations for one- and two-family dwellings of three stories or less. It brings together all building, plumbing, mechanical, fuel gas, energy and electrical provisions for one- and two-family residences.

Permanent Exhaust Duct: The total network of 4" rigid ductwork starting from an interior wall, floor or ceiling and terminating through an outside Exhaust Penetration.

Pressure Tap Fitting: A device designed to penetrate the dryer transition duct in order to obtain internal pressure readings.

Recommended: When the term recommend is used in this document, it means the practice or procedure is advised or suggested, but is not a requirement of this Standard.

Rotating Vane Anemometer: A tool for measuring unevenly distributed or fluctuating flows through heating and cooling coils, diffusers, grilles, and filters. It accurately measures air velocity and temperature, calculates flow rate, performs averaging, and can determine minimum and maximum readings.

Single Dryer Exhaust Ducts: Systems that have only one dryer unit attached to a residential-type 4" (102 mm) diameter rigid metal vent system.

Shall: The word shall is defined as denoting a mandatory requirement. The criterion for conformance to this Standard requires that there be no deviation when shall is used.

Secondary Lint Traps: A secondary lint screen that traps most of the lint normally being sent through the dryer exhaust duct. These devices prevent lint buildup in the exhaust duct and dryer booster fan when present and also act as a required clean out for dryer duct systems with vertical risers.

Termination Device: A device that will prevent backdrafts from outside as well as prevent birds or other wildlife from building nests or taking refuge in the ductwork. The wall cap should present minimal resistance to the flow of exhaust air and should require little maintenance to prevent clogging.

Termination Device Damper: A device installed on the last exhaust penetration that prevents outside backdrafts and weather elements from entering into the duct.

Transition Duct: The connection (flexible or rigid) between the dryer manufacturer's exhaust outlet and the dryer exhaust duct in the wall, floor, or ceiling of the building structure.

Test Duct: 4' - 6' long, semi-rigid duct with continuous 4" interior diameter whether compressed or stretched.

Visual Inspection: Visual examination with the naked eye of the cleanliness of the dryer vent system.

APPENDIX

Conditions That May Cause Performance Issues

The NADCA Dryer Exhaust Duct Performance (DEDP) Test shall be performed on dryer exhaust ducts that have been visually inspected and confirmed to be clean. The primary function of the performance test is to capture airflow (velocity) and back pressure data combined to determine if the values are within an acceptable range.

If the performance test results are below minimum values, there are numerous conditions that may be affecting the outcome. A series of common issues are listed below. This list does not imply that the dryer exhaust contractor must perform some or any of these services. The list does identify most conditions that may be further impacting performance.

These are conditions and areas of concern that should be addressed if the *NADCA Dryer Exhaust Duct Performance (DEDP) Test* results are below minimum values. Many of these items are not the direct responsibility of the dryer exhaust duct service provider. Deficient conditions that may be presented after servicing and noncompliance might include:

- ☐ The dryer vent pipe developed length is too long in accordance with manufacturer's specification.
- ☐ The dryer exhaust duct is using a wall cavity as a riser.
- ☐ The dryer exhaust duct has too many elbows restricting air flow.
- ☐ The longitudinal seams on the dryer vent snap lock pipe are leaking air.
- ☐ Elbow and connection joints are leaking or are non-taped.
- ☐ The termination barrier screen (bird/rodent guard) is too restrictive (it is assumed the technician has serviced this correctly before the test).
- ☐ The termination device damper is too small.
- ☐ The termination device damper is restricted by its installed location.
- ☐ Moisture is condensing on the inside of the dryer exhaust duct and accumulating within the ductwork.
- ☐ The dryer exhaust duct is pitched incorrectly.
- ☐ Lint combined with water in the duct has solidified into a cementitious mass that cannot be removed with direct agitation and requires advanced procedures.
- ☐ The dryer exhaust duct may still be blocked or crushed after servicing procedures were performed. (Recommend to video scope or physically dismantle the ductwork to identify the cause)
- ☐ Non-code compliant duct materials.

Appliance Exhaust Performance

The dryer exhaust duct discharge velocity at the termination device may be measured with the dryer appliance in its final installed position and operating empty in the non-heat mode. This information can be used to determine if a significant pressure differential exists between the appliance and the test device. In the event there is a significant pressure differential, the dryer appliance should be evaluated for proper operation by a qualified service provider. This measurement provides supplemental data to the *NADCA Dryer Exhaust Duct Performance (DEDP) Test* and is not a requirement of this Standard.

REFERENCE DOCUMENTS AND RESOURCES

ASHI: American Society of Home Inspectors

- ASHI Reporter 2005: The Facts About Clothes Dryer Exhaust Systems

CSIA: Chimney Safety Institute of America

- Certified Dryer Exhaust Technician® (CDET) Program Reference Manual

IFGC: 2012 International Fuel Gas Code®

- Section 614: Clothes Dryer Exhaust

IMC: International Mechanical Code® 2009

- Section 504: Clothes Dryer Exhaust

IRC: International Residential Code 2012

NADCA: National Air Duct Cleaners Association

- ACR, The NADCA Standard for Assessment, Cleaning and Restoration of HVAC Systems

NFPA: National Fire Protection Association

- 90A Standard for the Installation of Air-Conditioning and Ventilating Systems
- 90B, Standard for the Installation of Warm Air Heating and Air-Conditioning Systems
- 96, Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations
- 255, Standard Method of Test of Surface Burning Characteristics of Building Materials

UL: Underwriter Laboratories, Inc.

- UL 181, Factory-Made Air Ducts and Air Connectors
- UL 181A, Closure Systems for Use with Rigid Air Ducts
- UL 181B, Closure Systems for Use with Flexible Air Ducts and Air Connectors
- UL 723, Test for Surface Burning Characteristics of Building Materials
- UL 2158A, Clothes Dryer Transition Duct

FORM TO REQUEST FORMAL INTERPRETATIONS OF

Standard for Measuring Residential Dryer Exhaust Duct Performance

Complete this form and send to:

Chairman, Standards Committee
National Air Duct Cleaners Association
1120 Route 73, Suite 200
Mt. Laurel, NJ 08054
Fax: 856-439-0525
Email: jodi@nadca.com
Phone: 856-380-6810

Name: _____ Company: _____

Address: _____

City, State, Zip: _____

Phone: _____ Fax: _____

Email: _____

Organization Represented, if any: _____

Section/Paragraph in Question: _____

Question: _____

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Signature: *(Required)* _____ Date: _____

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