



INNOVATIONS FOR LIVING®



Atco. Working Together.
Doing It Right.

JOIN THE ECOTOUCH® INSULATION REVOLUTION

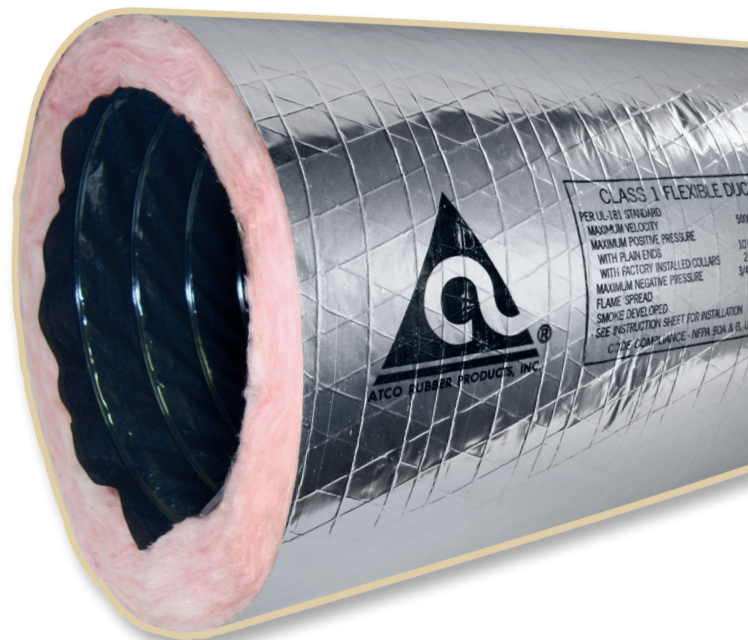
OWENS CORNING IS RAISING THE BAR FOR FLEXIBLE DUCT MEDIA.

Introducing the newest innovation from Owens Corning: EcoTouch® insulation. It provides the exceptional performance customers have come to rely on from Owens Corning™ products, plus it's designed with the environment in mind.



ECOTOUCH® INSULATION ADVANTAGE:

- Made with natural* materials, formaldehyde-free** and soft to the touch
- Uses a minimum of 57% recycled content—5% being post-consumer
- GREENGUARD Indoor Air Certified® and GREENGUARD Children & Schools CertifiedSM
- Thickness recovery provides outstanding thermal and acoustical performance



5% Post-consumer
52% Pre-consumer
SCS-CERTIFICATION SYSTEMS
SCS-MC-02066

* Unfaced insulation made with a minimum of 99% by weight natural materials consisting of minerals and plant-based compounds (not including packaging).

** Applies to the insulation component only.

Scientific Certification Systems (SCS) provides independent verification of recycled content in building materials and verifies recycled content claims made by manufacturers. For more information, visit www.scs-certified.com. The GREENGUARD INDOOR AIR QUALITY CERTIFIED Mark is a registered certification mark used under license through the GREENGUARD Environmental Institute.

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25' Insulated
UL 181
Class 1 Air Duct

Made with



UPC #030
R-Value 4.2

UPC #036
R-Value 6.0

UPC #031
R-Value 8.0

All thermal performance (R-Values) are certified by the Air Diffusion Council (ADC) and classified by UL LLC in accordance with ADC Flexible Duct Performance and Installation Standard using ASTM C-518, at installed wall thickness, on flat insulation only.

Construction

ATCO #030, #036, and #031 are UL 181, Class 1 Air Ducts and are manufactured with a tri-directional fiberglass scrim reinforced, metallized polyester outer jacket. A double lamination of tough polyester which encapsulates a steel wire helix forms the air-tight inner core of the ATCO #030, #036, and #031. The double-layer core of each product is wrapped with a thick blanket of fiberglass insulation. The inner core of all three products is air tight and designed for low-to-medium operating pressures in HVAC systems. ATCO #036 and #031 have increased insulation for superior thermal performance.



FEATURES & BENEFITS



- Air-tight Inner Core** – Energy efficient / No fiberglass erosion into air stream
- Encapsulated Wire Helix** – No unraveling when cut to length / Quick installation
- Smooth Inner Core** – Low friction loss / Low operating cost
- Highly Resistant to Mold Growth** – Tested and Listed to UL Environment's Standard UL 2824
- Certified for Low Chemical Emissions** – Tested and Certified to UL Environment's Standard UL 2818
- Certified Thermal Performance (R-values)** – UL Classified to Air Diffusion Council test program
- Tough Reinforced Metallized Polyester Jacket** – Tear and puncture resistant / Low maintenance
- Lightweight Compact Carton/Bag** – Reduces warehouse and jobsite handling cost
- Formaldehyde Free** – Made with Owens Corning EcoTouch Insulation



APPLICATIONS & CODE COMPLIANCES



ATCO #030, 036, and 031 are designed for indoor use as a supply and return air duct in residential and commercial low-to-medium pressure heating and air conditioning systems. All three models can be used as a complete air duct system and/or a branch duct connecting to mixing boxes, diffusers, light troffers, room inlets, or other terminal devices. UL 181, NFPA 90A & 90B, IMC, IRC, UMC (ICC ES REPORT NO. ESR-1268), HUD, Cities of Chicago, New York, San Francisco, County of Dade (Florida), California State Fire Marshal.*

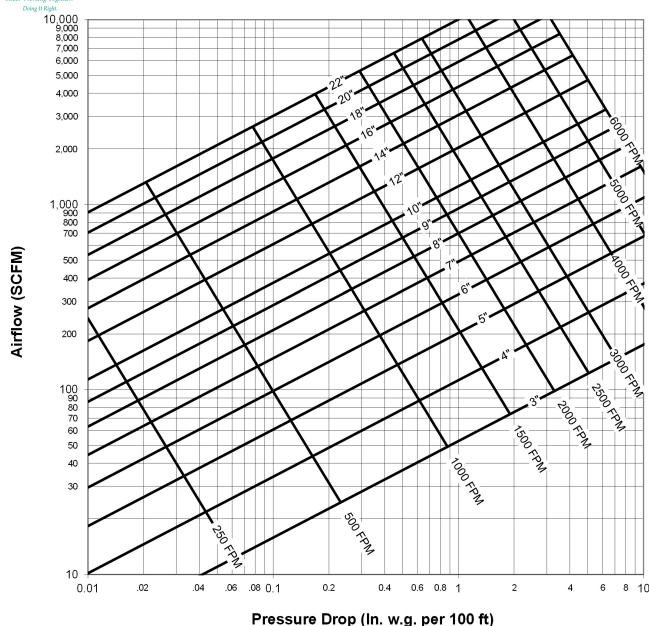
*ATCO recommends that you check with the local code body having jurisdiction in your area to determine applicable codes.



PRODUCT & PERFORMANCE DATA



Air Friction Chart



PRODUCT DATA

Length: 25', 50' (Other lengths available as special order)
 Diameter: 3" – 10" all diameters, plus 12" – 22" even diameters
 Vapor Barrier: Tri-directional, scrim reinforced metallized polyester
 End Treatment: 25', 50' – plain ends
 Packaging: 1 piece per carton / bag (50ft product in cartons only)

INSTALLATION

Air duct connections and joints shall be made per installation instructions outlined by ATCO Rubber Products, Inc. and as required by the UL 181 listing procedure.
 (Installation instructions included with product packaging)

STRAIGHT RUN

*FD 72-R1 Test code of the Air Diffusion Council. Friction loss is reported in inches of water gauge per 100ft of duct. By using CFM or FPM values for a given duct dimension, the friction loss can be determined. Conversion of CFM to FPM also can be made.



PERFORMANCE DATA



UPC #030
R-Value 4.2

UPC #036
R-Value 6.0

UPC #031
R-Value 8.0

- Rated Positive Pressure: 10" w.g. per UL-181 (UL Listed pressure ratings are determined in straight lengths @ ambient temperatures.) (With factory installed metal collars, 2" w.g. – all diameters)
- Rated Negative Pressure: 3/4" w.g.
- Rated Maximum Velocity: 5,000 FPM
- Recommended Operating Pressures: (Determined in a 90° bend at elevated temperatures in accordance with ADC FD 72-R1 Test Code.)
 Maximum Positive:
 6" w.g. – 3" thru 12" Dia.
 4" w.g. – 14" thru 22" Dia.
- Vapor Transmission: .05 perms
- Maximum Operating Temperatures:
 -20°F to 140°F Continuous (@ maximum pressure)
 -20°F to 180°F Continuous (@ 2" pos. w.g. max)
 -20°F to 250°F Intermittent (@ 1/2" pos. w.g. max)
- Flame Spread: 25 max
- Smoke Developed: 50 max



Warranty – ATCO warrants that all flexible ducts will be free from defects in material and workmanship for a period of five years from the date of purchase only if the ducts are installed in accordance with ATCO's installation instructions and under conditions specified in ATCO's performance data. The buyer's exclusive remedies for any defect in the flexible ducts shall be replacement or refund of the purchase price, at ATCO's option. ATCO MAKES NO OTHER WARRANTIES, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE. IN PARTICULAR, ATCO MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ATCO SHALL HAVE NO LIABILITY TO THE BUYER OR ANY THIRD PARTY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND WHATSOEVER, INCLUDING, BUT NOT LIMITED TO, PERSONAL INJURY, PROPERTY DAMAGE, LOST PROFITS OR OTHER ECONOMIC INJURY DUE TO ANY DEFECT IN THE FLEXIBLE DUCTS. MATERIALS AND SPECIFICATIONS FOR THE FLEXIBLE DUCTS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

Manufacturing & Shipping Locations



Baltimore, MD • Cartersville, GA • Crawfordsville, IN
 Fort Worth, TX • Houston, TX • Phoenix, AZ
 Plainville, GA • Plant City, FL • Sacramento, CA
 Springdale, AR • Vineland, NJ

ATCO RUBBER PRODUCTS, INC.

CORPORATE HEADQUARTERS
 7101 ATCO DRIVE
 FORT WORTH, TEXAS 76118-7098
 PHONE: (817) 595-2894
 1-800-USS-DUCT (1-800-877-3828)
 FAX: 1-800-366-3539 TELEX: 758-510

www.atcoflex.com



ENVIRONMENTAL CLAIM VALIDATION SUMMARY

ATCO Rubber Products, Inc.

Flexible Duct Core - Polyester

Report Number:

42678-4170

Validation Period:

10/08/2014 - 10/08/2015

Project Number:

Claim:

Validated by testing developed in compliance with ASTM D 6329-98 (2008), Standard Guide for Developing Methodology for Evaluating the Ability of indoor Materials to Support Microbial Growth Using Static Environmental Chambers

Method:

Mold Resistant per UL 2824

CERTIFICATE OF COMPLIANCE



ATCO Rubber Products, Inc. ATCO Flexible Duct

892-420

Certificate Number

06/20/2008 - 02/12/2016

Certificate Period

Certified

Status

UL 2818 -2013 Gold Standard for Chemical Emissions for Building Materials, Finishes and Furnishings

Product tested in accordance with UL 2821 test method to show compliance to emission limits on UL 2818. Section 7.1 and 7.2.

Building products and Interior finishes are determined compliant in accordance with California Department of Public Health (CDPH) Standard Method V.1.1-2010 using the applicable exposure scenario(s).



Environment

UL Environment investigated representative samples of the identified Product(s) to the identified Standard(s) or other requirements in accordance with the agreements and any applicable program service terms in place between UL Environment and the Certificate Holder (collectively "Agreement"). The Certificate Holder is authorized to use the UL Environment Mark for the identified Product(s) manufactured at the production site(s) covered by the ULE Test Report, in accordance with the terms of the Agreement. This Certificate is valid for the identified dates unless there is non-compliance with the Agreement.

GREENGUARD Gold Certification Criteria for Building Products and Interior Finishes

Criteria	CAS Number	Maximum Allowable Predicted Concentration	Units
TVOC ^(A)	-	0.22	mg/m ³
Formaldehyde	50-00-0	9 (7.3 ppb)	µg/m ³
Total Aldehydes ^(B)	-	0.043	ppm
4-Phenylcyclohexene	4994-16-5	6.5	µg/m ³
Particle Matter less than 10 µm ^(C)	-	20	µg/m ³
1-Methyl-2-pyrrolidinone ^(D)	872-50-4	160	µg/m ³
Individual VOCs ^(E)	-	1/2 CREL or 1/100th TLV	-

- (A) Defined to be the total response of measured VOCs falling within the C₆ – C₁₆ range, with responses calibrated to a toluene surrogate.
- (B) The sum of all measured normal aldehydes from formaldehyde through nonanal, plus benzaldehyde, individually calibrated to a compound specific standard. Heptanal through nonanal are measured via TD/GC/MS analysis and the remaining aldehydes are measured using HPLC/UV analysis.
- (C) Particle emission requirement only applicable to HVAC Duct Products with exposed surface area in air streams (a forced air test with specific test method) and for wood finishing (sanding) systems.
- (D) Based on the CA Prop 65 Maximum Allowable Dose Level for inhalation of 3,200 µg/day and an inhalation rate of 20 m³/day
- (E) Allowable levels for chemicals not listed are derived from the lower of 1/2 the California Office of Environmental Health Hazard Assessment (OEHHA) Chronic Reference Exposure Level (CREL) as required per the CDPH/EHLB/Standard Method v1.1 and BIFMA level credit 7.6.2 and 1/100th of the Threshold Limit Value (TLV) industrial work place standard (Reference: American Conference of Government Industrial Hygienists, 6500 Glenway, Building D-7, and Cincinnati, OH 45211-4438).



Environment



September 18, 2020

ATCO Rubber Products
Mr. Ralph Koerber
7101 ATCO Drive
Fort Worth TX 76118

Congratulations! ATCO Rubber Products has shown its commitment to healthy indoor environments by testing the **"Flexible Duct Core - Polyester"** to current microbial resistance requirements. UL Environment is pleased to inform you that your product has been tested and verified to be microbially resistant by The MicroStar Lab in Crystal Lake, IL. The testing was in accordance to UL 2824 "GREENGUARD Certification Program Method for Measuring Microbial Resistance From Various Sources Using Static Environmental Chambers" following ASTM D 6329 "Standard Guide for Developing Methodology for Evaluating the Ability of Indoor Materials to Support Microbial Growth Using Static Environmental Chambers".

Your product is now eligible for listing on the UL Environment Sustainable Product Guide.

If you have not already created product listings for the product guide, please log on to create it in the **Customer Portal** at your earliest convenience. This allows your customers to verify your validation for microbial resistance and access your compliance documentation. If you have any questions regarding the ULE portal please contact a representative in the program administration group at 1-800-427-9651 or lst.ULE.SpgActivation@ul.com.

Thank you for testing with UL Environment. Please feel free to contact your Account Manager at (770) 933-0638 for any additional information regarding this test report. For more technical information about the Environmental Claims Validation (ECV) program, please visit, www.ul.com/environment.

Sincerely,

A handwritten signature in black ink that reads "W. Elliott Horner".

W. Elliott Horner, PhD, LEED®AP
Lead Scientist

Attachments: 1) Report No. 843-260 (R2020-458-1)
 2) Authorization Form



AUTHORIZATION FORM FOR LISTING OF TESTED PRODUCTS FOR MICROBIAL RESISTANCE ENVIRONMENTAL CLAIM

Testing Laboratory	The MicroStar Lab, Crystal Lake, IL
Manufacturer Information	ATCO Rubber Products Mr. Ralph Koerber 7101 ATCO Drive Fort Worth TX 76118
Report Date	September 18, 2020
Product Description	Flexible Duct Core - Polyester

This product has been tested according to UL Environment's UL 2824, "GREENGUARD Certification Program Method for Measuring Microbial Resistance From Various Sources Using Static Environmental Chambers." This method meets the requirements of ASTM D 6329. Test results assess the product's resistance to mold growth at adverse environmental conditions. This product has been tested and found to achieve a measurement of its resistance to mold growth.

Product Measurement	Rating	Product Acceptable for Listing?
Highly Susceptible to Mold Growth		No
Susceptible to Mold Growth		No
Resistant to Mold Growth		Yes
Highly Resistant to Mold Growth	✓	Yes

UL Environment did not oversee sample collection and packaging of product. UL Environment expressly disclaims any warranty or representation that the mold resistance level met by the tested product, has been or will be approved, sanctioned, or authorized by any government agency; or the results are sufficient or safe for human exposure. Test results indicate that the product, as received by UL Environment, resulted in the reported product measurement. For more information on UL Environment programs visit www.ul.com/environment or call 1-800-427-9681.



INTERNAL Use Only			
Project #	843		
Product #	260AA		
Order #	13430283		
Task Line	UL BU	UL US VS	
1 of 1			

Place Barcode here



CUUGBA105

Rush Request – Subject to upcharge. Customer must confirm with ULE prior to submitting product. 108030472

Product Emissions Test Information			
Test Type Request <small>(These options have specific protocol)</small>	<input type="radio"/> CA01350 CDPH/EHLB	<input type="checkbox"/> Office	<input type="checkbox"/> Classroom
	<input type="radio"/> Odor Evaluation	<input checked="" type="radio"/> MRT UL 2824	<input type="radio"/> GLP (24 hour)
	<input type="radio"/> GREENGUARD Screening (24 hr TVOC, VOCs, & aldehydes w/ modeling)	Modeling: <input type="radio"/> GLP (336 hour)	
Other Test Type Request			
Comments	Specify test method, non-standard sample preparation, modeling parameters, etc.		
Product Category	Choose One	Subcategory	
Application	<input type="radio"/> Floor/Ceiling	<input type="radio"/> Panel	<input type="radio"/> Wall
Wet Products Only	Coverage Rate	Density	Specific Gravity
Product and Company Information			
Product Description	FLEXIBLE DUCT CORE - POLYESTER		
Manufacture ID#		Product Commercial Name	
Company Name	ATCO RUBBER PRODUCT, INC.	Date Manufactured	
Address	7101 ATCO DRIVE	Contact Name	RALPH KOERBER
	FORT WORTH, TEXAS 76118	Job Title	VP TECHNICAL SERVICE
		Contact Phone	817-595-2894 X-1278
		Contact Email	rkoerber@atcoflex.com
Collection Information			
Collector Name	Phuoc Le	Date Collected	07/29/2020
Collector Phone	817-595-2894 X-1277	Time Collected	10:30 am
Collector Signature	<i>[Signature]</i>	Collection Location	FORT WORTH
Shipping Information			
Carrier	FedEX		
Shipper Name		Date Shipped	07/29/2020
Shipper Phone		Time Shipped	3:30 pm
Shipper Signature		Air Bill #	7711 25436581
Sample Submitted to			
<input checked="" type="radio"/> UL Environment (Marietta) 2211 Newmarket Parkway Suite 106 Marietta, GA 30067, USA	<input type="radio"/> UL Verification Services (Guangzhou) Building A1, 3F, Nansha Science and Technology Innovation Ctr. No. 25, South Huanshi Avenue, Nansha District, Guangzhou 511458, China	<input type="radio"/> UL International Italia S.r.l ATTN: IAQ Laboratory Via Europa, 9 I - 22060 - Cabiato (Como), Italia	<input type="radio"/> Other
Post Testing Sample Disposition <small>(Sample will be disposed of 30 days after report is issued if information below is not provided)</small>			
Return Shipping Co.		Customer Shipping Acct #	
Internal Use Only – Receiving Information			
Receiver Name	<i>[Signature]</i>	Receiver Signature	<i>[Signature]</i>
Condition Upon Arrival	<input checked="" type="radio"/> Acceptable	Receive Date	7/31/20
Condition Notes	<input type="radio"/> Not Acceptable	Receive Time	9:47AM
Completed By		Based On	Date

*PREPARATION AND MEASUREMENT OF MICROBIAL
RESISTANCE ON BUILDING MATERIALS*

UL Document Number: UL 2824

FINAL REPORT: R2020-458-1

Prepared for:
UL Environment
2211 New Market Pkwy
Marietta, GA 30067

Testing Provided by:



130 Erick Street
Crystal Lake, IL 60014
815.526.0954

Testing Initiated: August 12, 2020
Testing Completed: September 9, 2020
Report Issued: September 16, 2020

Performed By: Marcy Aaron
Title: Staff Scientist

Approved By: Debbie Koester
Title: Quality Manager



Objective:

To quantitatively evaluate the ability of molds to colonize one sample and rate its susceptibility or resistance to mold growth.

Test Sample Identification:

1. 843-260AA

Test Procedure Summary:

The test sample and control (tongue depressor) were cut to approximately 2cm x 4cm test coupons. Three replicates were prepared for each contact time. Test coupons were autoclaved prior to testing. Each coupon was placed into a sterile Petri dish.

Penicillium brevi-compactum (DAOM 192262) was cultured and adjusted to a target starting concentration of 1.5×10^3 spores/mL. Viability of the harvested spores was verified. 0.2mL of the adjusted inoculum was placed onto the surface of test and control coupons. All samples were then placed into a chamber containing sodium phosphate heptahydrate ($\text{Na}_2\text{HPO}_4 \cdot 7\text{H}_2\text{O}$) to maintain relative humidity of 95% at 25°C.

Contact times were Day 0 (1 hour after inoculation), Week 1 (Control only), and Week 3 after inoculation. Three (3) replicates of the sample and control were removed from the test chamber at the appropriate contact time and placed into a sterile container containing 10mL of 0.01% Tween 80 solution. The sample was shaken to facilitate the release of any spores that may be on the test coupon into the buffer solution. Serial dilutions were made to determine if any viable fungal spores remained on the coupons. The serial dilution plates were incubated at 25°C for 5 days and colonies were counted. Averages for the 3 replicates for test and control coupons were calculated.



Test Results:

The results below pertain only to test items included in this report.

The average number of recovered colonies for the test sample and control was converted into colony forming units (CFU) per coupon and log value. The results for tested sample and the control were rated according to the rating scheme given below.

Results for 843-260AA

Sample	Day 0	Week 3	Ranking	Product Measurement
843-260AA	2.7	2.0	4	Highly Resistant to Mold Growth
Control	2.7	7.3	2	Susceptible to Mold Growth

Microbial Resistance Rating Scheme

Ranking	Product Measurement	Definition
1	Highly Susceptible to Mold Growth	Growth comparable to highly susceptible materials. Log(CFU) > 7.5 at 3 weeks
2	Susceptible to Mold Growth	Growth comparable to susceptible materials. Log(CFU) ≤ 7.5 and > 5.5 at 3 weeks
3	Resistant to Mold Growth	Growth comparable to resistant materials. Log(CFU) ≤ 5.5 and > 2.5 at 3 weeks
4	Highly Resistant to Mold Growth	Growth comparable with highly resistant materials. Log(CFU) ≤ 2.5 at 3 weeks, or Log(CFU) < 5.5 with a decrease of at least 0.5 Log(CFU) after 3 weeks