

The logo for AirDIV features the text 'AirDIV' in a white, sans-serif font. The letters 'A', 'I', and 'V' are significantly larger than 'r' and 'D'. The text is enclosed within a white, rounded rectangular frame that has a slight 3D effect, with the top and bottom bars appearing to be slightly offset from the text.

# AirDIV

Air Distribution in Vehicles

Lightweight Textile Air Ducts  
Fabric Expansion Joints





## Our mission

We specialize in air distribution systems for railway vehicles & other means of transportation and provide lightweight textile air ducts and fabric expansion joints.

## Our passion

We want to promote a pleasant indoor climate for passengers in vehicles and provide our customers with top-notch technology and services.

## INTERIOR PRODUCTS



### Multi-Chamber Textile Air Duct

A complex air ducting solution for even air distribution in the interior of railway vehicles. The design of the whole air duct is individual. Both hot and cold air can be distributed using one duct with multiple chambers.



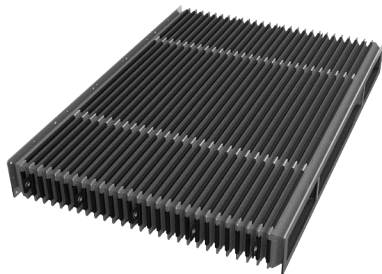
### Driver Cabin Textile Air Duct

A special air duct for the complicated and confined spaces in the driver's cabin. Almost any shape can be produced: outlets, arcs, adapters, etc. The air distribution is designed according to the customer's needs.



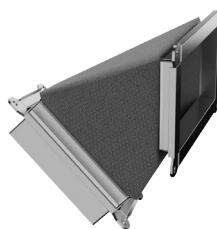
### Single-Chamber Textile Air Duct

An air duct of various cross-sections and shapes. They can function as connecting air ducts or as air ducts with air distribution capabilities. Additionally, various outlets and distribution elements can be customized to meet specific needs.



### Gangway Textile Air Duct

A wire-reinforced air duct designed specifically for vehicle joints (gangways). It offers durability and flexibility, maintaining a consistent cross-section even when bent. It is available in single-chamber variants or multi-chamber variants, which can distribute both hot and cold air.



### Compensator Textile Air Duct

Interior flexible compensators come in various shapes and sizes, from straight designs to complex adapters. They are part of rigid air ducting systems, reducing noise and compensating for neighboring components' tolerances and shifts. Available with or without metal flanges.



### Side Branch Textile Air Duct

Typically, several mirrored air ducts distribute air from the main ceiling duct. There is a wide range of connection options available. To ensure even air distribution from all branch ducts, regulation is achieved using sewn-in perforated fabric membranes.

GLOBAL

HQ in Czechia (EU)

30+ YEARS

experience

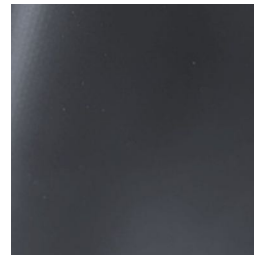
CERTIFIED

EN 45545-2 & NFPA 130

# OUR CUSTOMERS ARE THE LARGEST RAILWAY VEHICLE MANUFACTURERS IN THE WORLD

Our textile ducting systems have been implemented in various types of vehicles all over the world, and their reliability has been demonstrated by years of trouble-free operation in a variety of demanding conditions. Many major transportation manufacturers use our textile air ducts to make their vehicle air distribution systems more efficient and lightweight.

## EXTERIOR PRODUCTS



**AirDIV Outdoor**  
outdoor fabric

EN 45545-2 R1/HL2  
EN 45545-2 R1/HL3  
NFPA 130

### Flexible Fabric Expansion Joints (Compensators)

Fabric expansion joints (compensators) are very durable and suitable for outdoor environments. They are part of the vehicle's exterior HVAC ducting system, compensate for tolerances, and eliminate noise. They are connected with sealed stainless steel or aluminum flanges equipped with gaskets.

## OUR SERVICES

We offer support for the entire duration of each project. The AirDIV design team consists of HVAC specialists and mechanical engineers specializing in air duct systems & tailored airflow design.



### 1. REQUEST

Specification of the customer's requirements  
The suggestion of possible solutions  
Selection of the material



### 2. DEVELOPING

3D modeling  
Making drawings  
Air distribution calculations  
CFD simulations of the airflow



### 3. PROTOTYPE

Testing the final product on a mockup or on a real vehicle  
Measuring the air distribution  
Processing possible changes



### 4. SERIAL PRODUCTION

Manufacturing and delivery of the products according to the customer's schedule  
Maintenance and cleaning of the textile ducts

# We are able to ensure even air distribution along the whole length of a vehicle.

## BENEFITS



### THE MOST LIGHTWEIGHT AIR DUCTS ON THE MARKET

Textile air ducts can save up to 90% weight in comparison with sheet metal ducting and also provide significant weight savings compared to composite air ducts.



### FAST INSTALLATION

The installation of textile air ducting in vehicles is very easy and fast. It will take you only a fraction of the time you would need to assemble rigid (metal, composite) ducting.



### AIRFLOW BASED ON GIVEN REQUIREMENTS

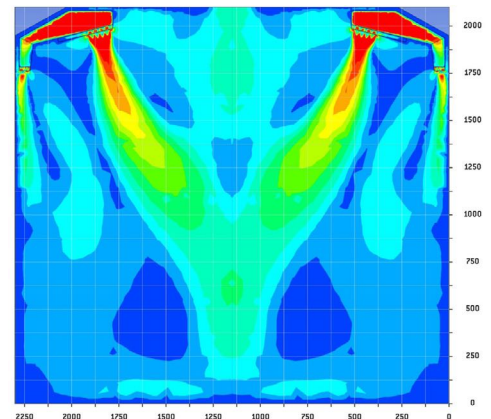
The custom-designed combination of a large number of distribution elements provides the required, usually even, flow of air through a vehicle's passenger saloons or driver's cabins.

## AIR DISTRIBUTION

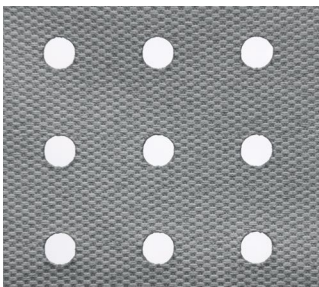
Textile air ducts are a universal air distribution tool and cover the entire range of air delivery patterns. We achieve the requested air distribution by selecting the correct air outlet method. We can combine the air outlet methods on a single air duct in any pattern or ratio we wish.

### CFD SIMULATIONS

Using CFD simulations, we can provide a true-to-life picture of the airflow inside the passenger compartment or a detailed analysis of the behavior of air ducts during operation.

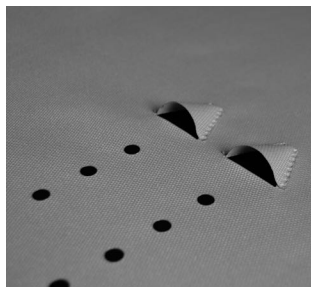


## DISTRIBUTION ELEMENTS



### Perforation

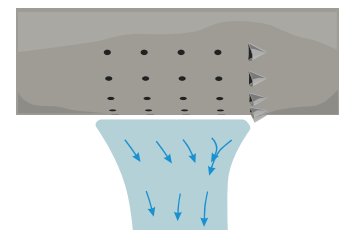
Holes with a diameter greater than 2 mm. The diameters of the holes vary along the length to ensure identical air distribution along the entire length of the duct.



### Fabric pockets

Our patented solution designed to remove the deflection of air leaving from the perforation. The pockets are connected to the duct using ultrasound.

Fabric pockets are designed to remove the deflection of air leaving from the perforation. The solution is based on the interaction of two air flows of similar momentum. Discharge from the last hole in the row is directed at a certain angle using a fabric pocket and balances the air deflection from the perforation.

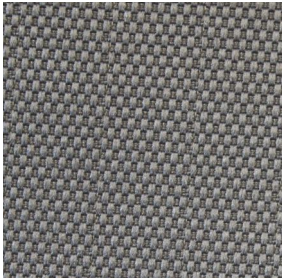


PATENTED SOLUTION

# ALL OF OUR MATERIALS ARE FIRE CERTIFIED

## FABRICS

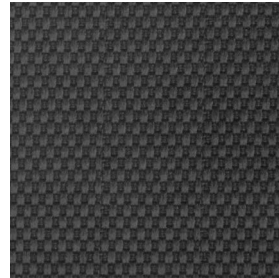
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### AirDIV Poly 2

200g/m<sup>3</sup>  
100 % polyester  
antibacterial

EN 45545-2 R1/HL2



### AirDIV Poly 3

200g/m<sup>3</sup>  
100 % polyester  
antibacterial

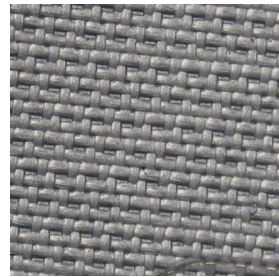
EN 45545-2 R1/HL3  
NFPA 130



### AirDIV Insulation

1200g/m<sup>3</sup>  
100 % polyester  
thickness 10, 20, 30 mm

EN 45545-2 R1/HL3



### AirDIV GlasSil

580 g/m<sup>2</sup>  
100 % glass fibre

EN 45545-2 R1/HL3  
NFPA 130

## TYPES OF ATTACHMENTS

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Enlarged strip, that slides into the C-profile



Velcro with self-adhesive counterpart



Velcro loop



Stainless connecting strip



Textile connecting strip with a buckle



Zipper for connecting parts or creating service openings



### **AirDIV s.r.o.**

Wilsonova 578, 539 01, EU-Czechia  
+420 469 315 801, info@airdiv.com

### **AirDIV India Pvt. Ltd**

Gat No. 32, Village Savardari  
Chakan MIDC, Phase 2, Tal. Khed  
Dist. Pune 410501, India  
+91 9643309962, info@airdiv.in

### **Suzhou AirDIV Co., Ltd**

苏州空气分布科技有限公司  
Kaiping Business Center, 11666 East  
Taihu Lake Avenue, Songling Town,  
Wujiang District, Suzhou, China  
+86 15948756039, info@airdiv.cn

[www.airdiv.com](http://www.airdiv.com)