



Automotive

airflow

Lightweight air duct solutions perfectly engineered and designed to combine lightness, flexibility, strength and improved acoustic performance.





Quieter, greener, smarter

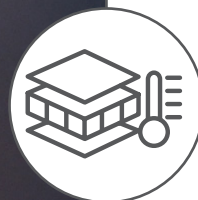
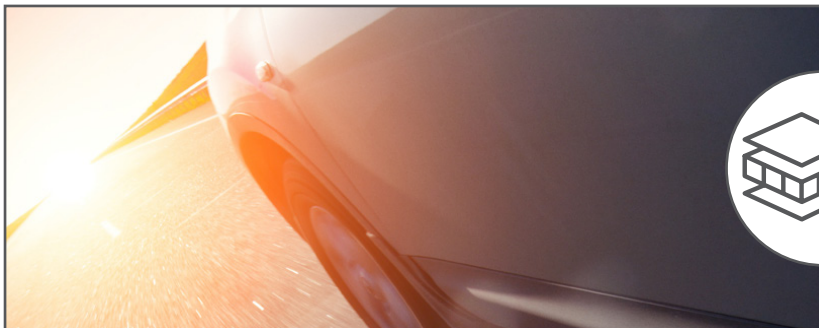
Airflow is Avon Group's new advanced Twin Sheet Polyethylene and Polypropylene air ducting. It's lighter, flexible, thermally efficient and acoustically superior to conventional blow-moulded, rubber and plastic ducting.



Superior acoustic performance

Airflow has excellent NVH qualities – with zero rattle and squeak issues and proven reduction of airflow noise.

- No squeaks or rattles
- Up to 5dB less airflow noise
- Flexible and easy to fit
- No need for added acoustic installation.



Thermally advanced

Airflow is thermally more efficient and offers;

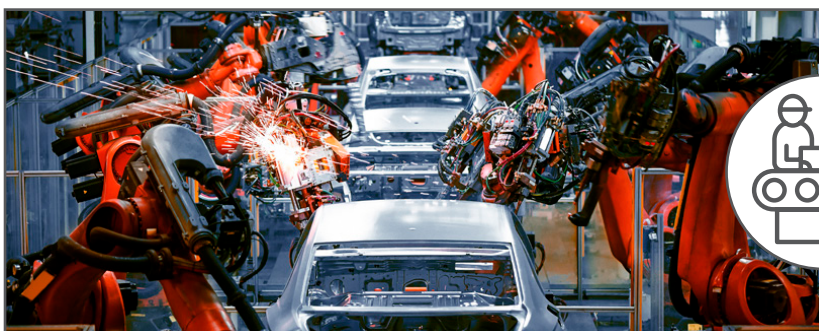
- Superior thermal performance
- Requires smaller HVAC units to achieve output.
- Lower emissions and increased vehicle performance.



Weight saving

Airflow is much lighter than conventional blow-moulded and rubber parts achieving weight savings of between 75 % and 90 %.

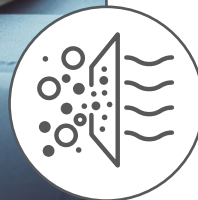
- High flexibility
- Up to 90 % lighter than rigid plastic ducts
- Fixing methods can be integrated into the design.



Ease of assembly and fitting

Airflow's flexibility helps reduce assembly time for the OEM's and 1st tier manufacturers.

- Easier fitting
- Quicker installation.



Cleaner and improved resilience

Airflow is hydrophobic, significantly reducing condensation build-up compared with conventional rigid plastic ducts.

- No condensation
- No bacteria build-up
- No smell
- No fogging.



Simply a superior ducting solution...

- Highly flexible
- Easy assembly
- Fast prototyping
- Perfect for tight spaces.

- Up to 90 % weight reduction
- Non-rigid
- Interface fixings and dampers built in.

- Lower emissions
- Increased vehicle performance
- No smell, no fogging, no bacteria build-up.

- Up to 5dB less airflow noise
- No squeaks or rattles
- Less condensation build-up within the air ducts.



LIGHTER

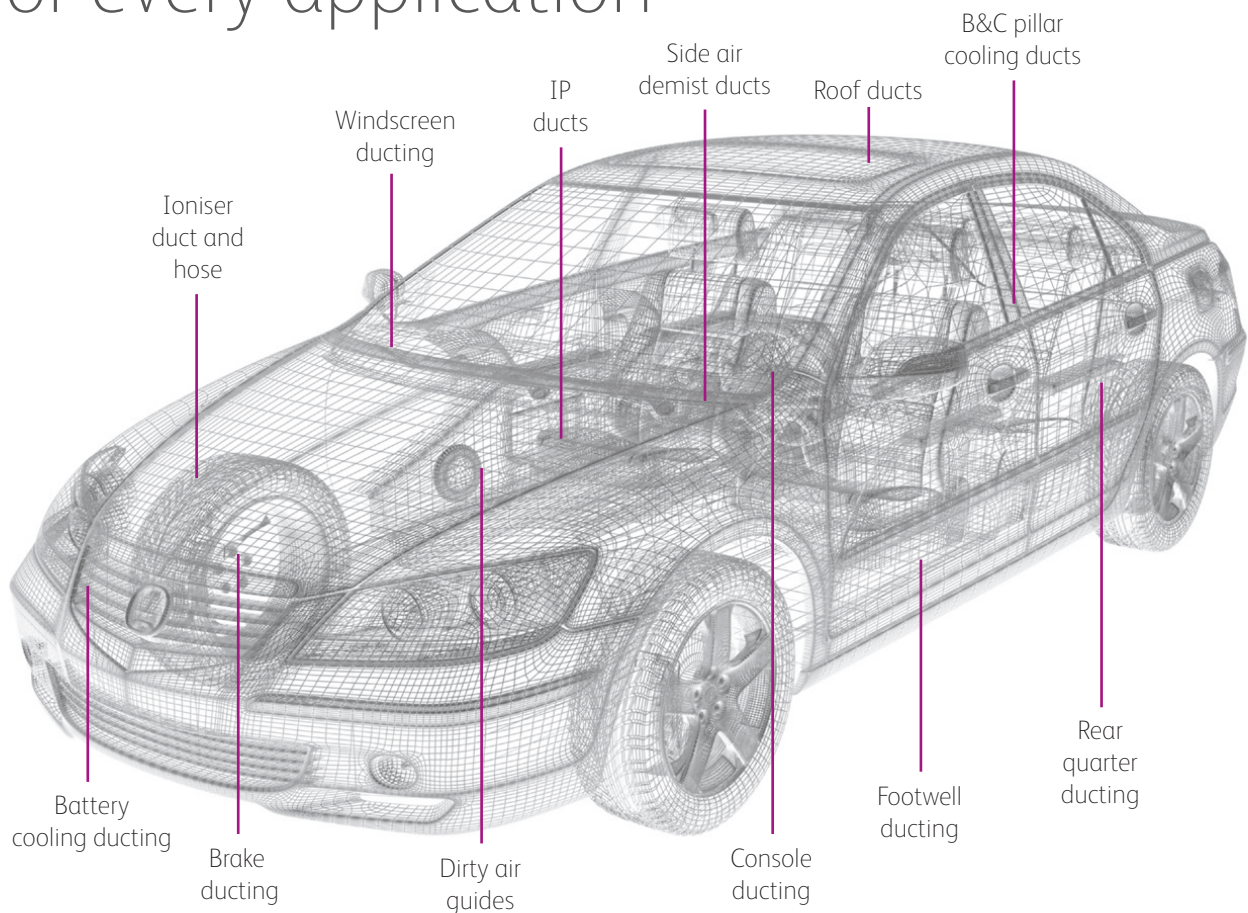
GREENER

QUIETER

EASY FITTING

ENHANCED
VEHICLE
PERFORMANCE

...for every application





Automotive innovation

The drive to reduce vehicle weight and improve acoustic performance whilst eliminating odour has been at the forefront of Avon Group's research and development programme. Airflow is the result of this investment and not only meets the expectations of our customers but exceeds them.

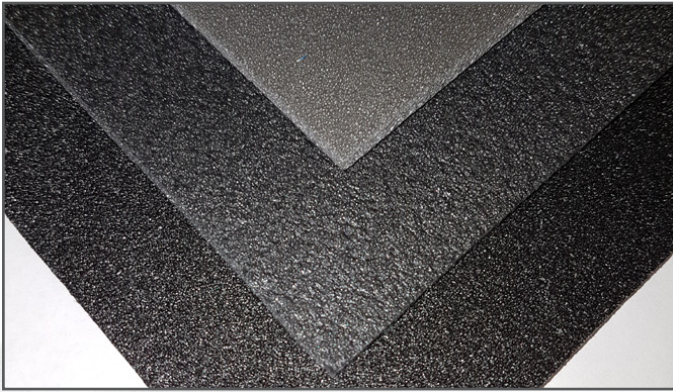
Avon Group's extensive design, engineering and manufacturing expertise is well proven, with many years' experience of successful and innovative projects delivered for some of the world's leading automotive manufacturers.

Backed by extensive customer support, component design and material selection, Avon Group offer fast prototype development through to full project management. Avon Group is the preferred partner of many OEM and Tier 1 suppliers.



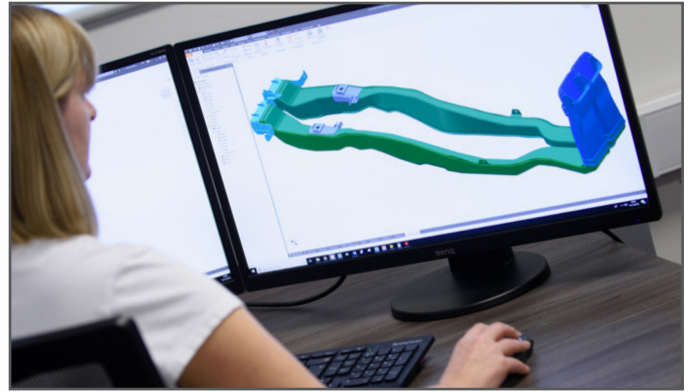


A world class manufacturing process



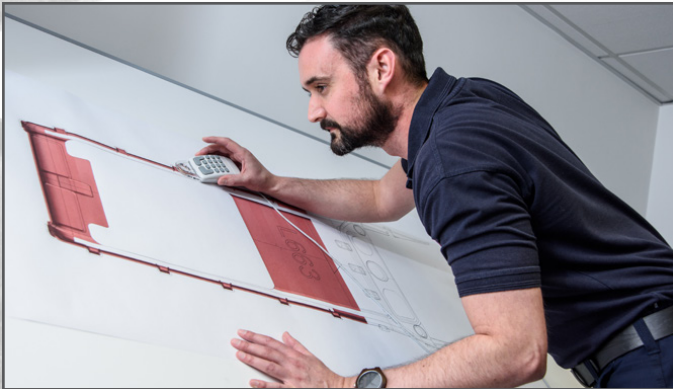
Material selection

A wide range of foam thicknesses and densities are on offer coupled with our expertise to help identify the ideal material selection to match your weight reduction or acoustic requirement.



CAD development

Collaborating closely with your own design teams and engineers, we provide design expertise and support from initial concepts through to production.



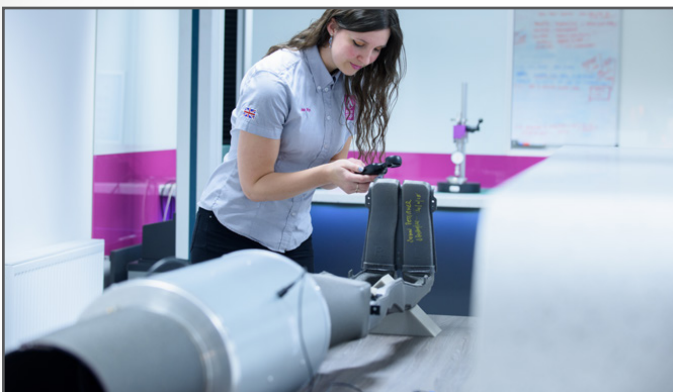
Tool design

Our engineering teams optimise tooling design to produce robust, fit-for-purpose components, with the focus on achieving both performance criteria and a cost-effective price point.



Forming process

Investment in cutting-edge technology and purpose-built manufacturing plant means Airflow is produced in the most efficient, cost-effective way. Twin sheet forming ensures productive and high quality product is produced in large quantities, quickly and cost-efficiently.



Finished product and testing

Airflow finished product is rigorously quality checked and subject to stringent testing to ensure it achieves up to 90 % weight saving and improved thermal and acoustic insulation characteristics.



Application and fitting

Airflow can be thermoformed into complex geometric shapes for application in many interior areas of a vehicle including instrument panels, pillars, floor and roof. It can also be used for ducting for battery cooling, brakes and engine compartment. Reinforcement ribs and alternative fixings can be added and tailored to individual solutions to meet customer requirements.

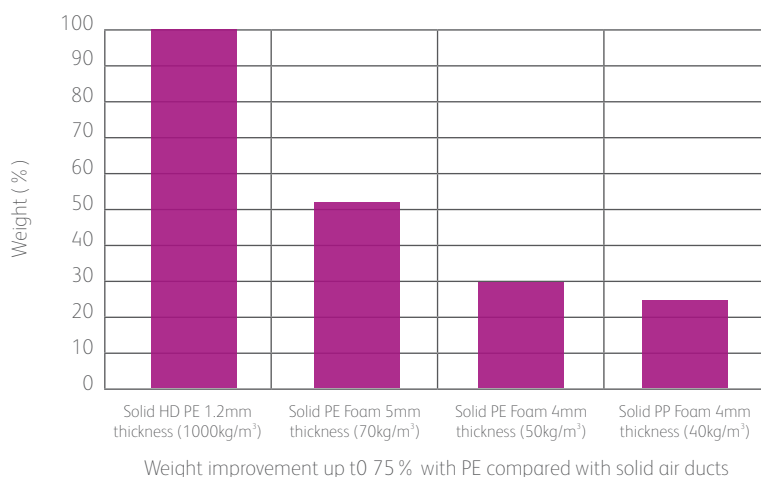


Clever by design

Airflow is the result of significant research and development by Avon Group – a business that truly understands the challenges facing global automotive motor manufacturers in a fast changing marketplace. Aware of the inherent limitations and poor performance characteristics of conventional rubber and plastic ducting, as well as the need to reduce weight, noise and cost, Avon Group have succeeded in developing a product that sets a new benchmark in ducting technology.

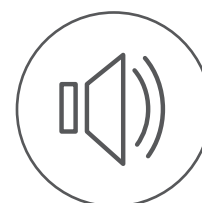
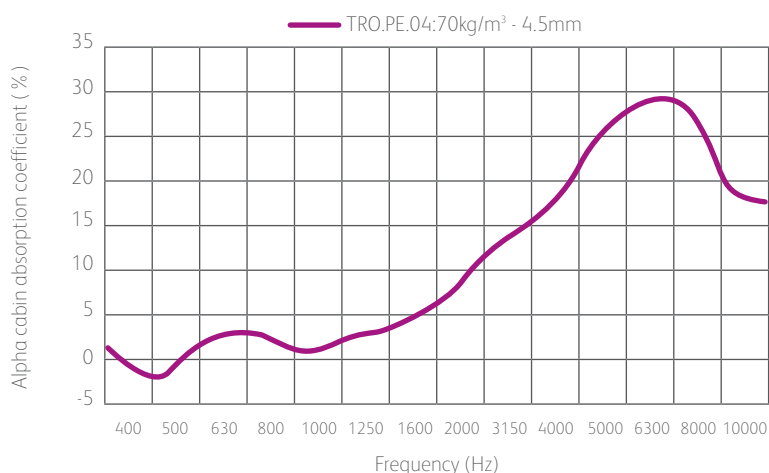
The results speak for themselves and have exceeded the expectations of our customers in all areas.

Weight:
PP vs HDPE



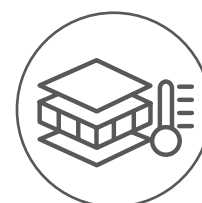
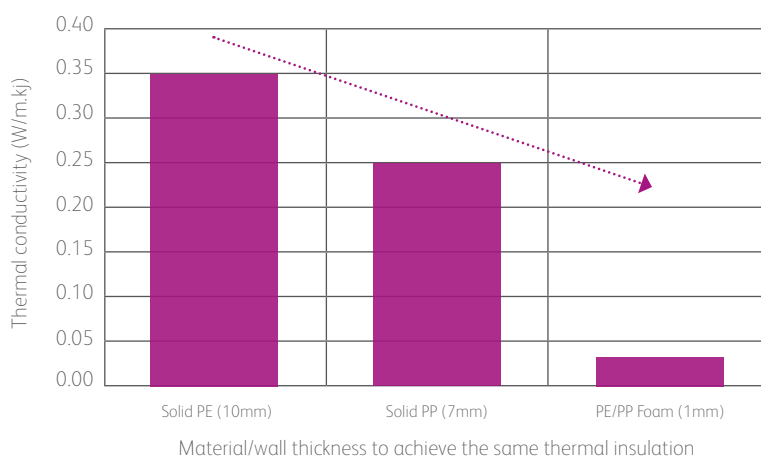
Up to 90 %
weight reduction

Acoustic
performance
PE



50 % quieter
(at 2000Hz)

Thermal
insulation



25 % less
energy loss



Designed for better performance

Airflow has been designed as a better performing alternative to conventional ducting, with flexible, easy-fit and built-in reinforcement properties it works in so many places, previously thought impossible.

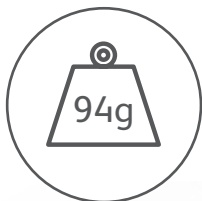
Interface flexibility

Typically hard interfaces are designed-out in Airflow products to improve performance characteristics but if these are required they can be incorporated in the design. We can also add lamination of other materials to further enhance acoustic or heat protection characteristics.



Battery cooling

Airflow has already been used to replace conventional blow moulded battery cooling ducts. Typically weighing around 100gms these conventional ducts are heavy and can cause squeaks and rattles. Avon Group has developed cost-effective solutions that have eliminated the risk of squeaks and rattles and reduced the weight of the product to under 30gms.



Original plastic duct



Airflow light weight duct





www.avon-group.co.uk