HOKA: HIGH QUALITY
AS FAST AS POSSIBLE

Quality

For 25 years, the name HoKa has been a synonym for quality and experience in the production of ventilation formed parts made of synthetic material.
We are specifically responsible for the quality of our products and have therefore established a QM system that complies with the requirements of DIN EN ISO 9001 in the respectively valid version. It also takes the specifi c requirements of ventilation engineering into consideration. This is continuously monitored by the DQS.

Our company motto is found at every work station and is supported by every employee:
„High quality as fast as possible“

To ensure constant product quality, we procure our raw materials from well-known manufacturers. All products undergo a QA check and are manufactured on the basis of DIN 1946, thus complying with the requirements in the sector of ventilation and aeration. We follow the relevant DIN standards for our dimensional tolerances, thus guaranteeing compatibility with the respective ventilation pipe manufacturers. In addition to the current formed parts, the extensive product range also includes specialised custom-made designs.

Environmental protection

To protect our environment, we invest in renewable energies. HoKa GmbH has a total of 5 independent photovoltaic systems with a gross output of 560 kWp which produce up to 504,000 kWh of electricity per year. We currently generate more electricity per year than we actually use. At present, this saves us 50,000 litres of petrol or diesel - or 126,000 kg of firewood, or 65,500 kg of bituminous coal or 66,500 m³ of natural gas each year.

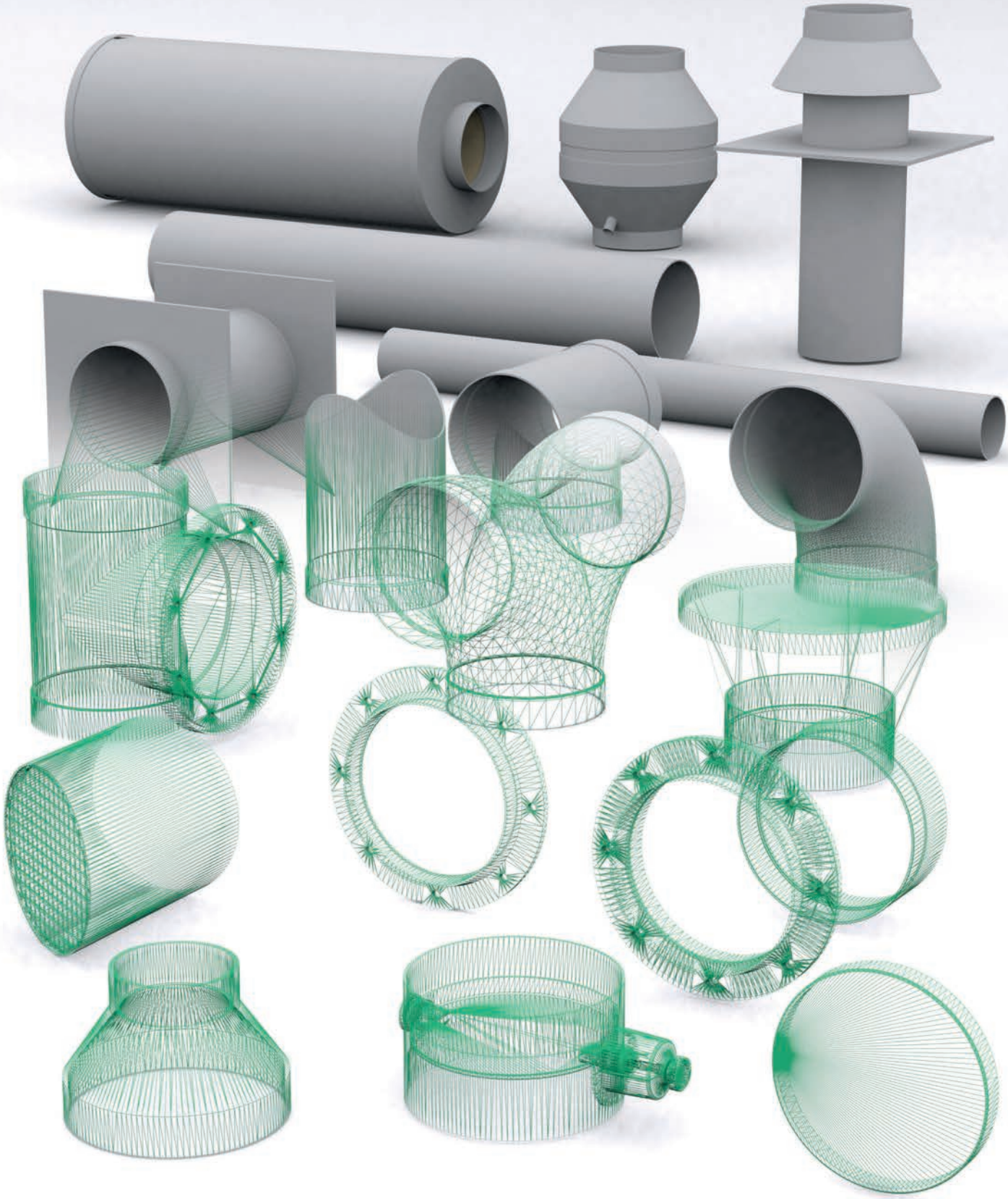
YOUR CONTACT
IN AUSTRIA

AURO
Austria GmbH

AURO Austria GmbH
Lichtblaustraße 21
A-1220 Wien

Telefon: +43/1/256 55 55
Telefax: +43/1/256 55 55 55
E-Mail: wien@auro.cc
Web: www.auro.cc

EXTRACT FROM THE
HOKA PRODUCT RANGE



Complete, fast, economical

Bends · Double sockets · Volume control dampers · Continuous dampers, control dampers · Reducers · Branch outlets
Breeches · Flanges · Flexible connectors · End caps · Condenser defl ector housing · Roofheads · Outlet cowls · Through walls
Outlets with grille · Back fl ow dampers and Lamellar shutters · Saddles · Inlet grilles · Sound attenuators

Materials: PVC, PPs, PP-EL-s, PP, PE and PVDF

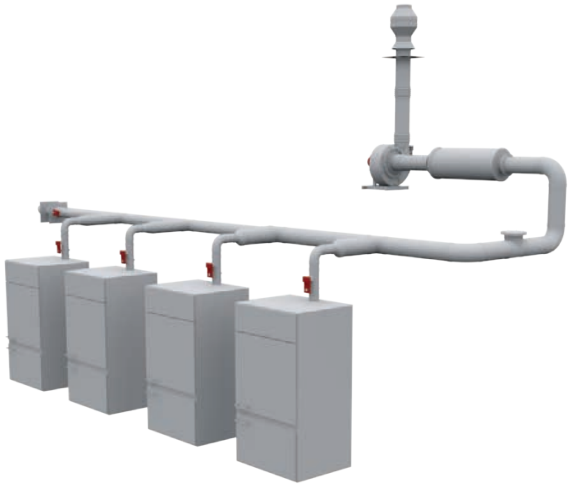
VENTILATION SYSTEMS
OF SYNTHETIC MATERIAL

for permanent application in exhaust air

VENTILATION SYSTEMS OF SYNTHETIC MATERIAL

AURO
Austria GmbH

HOKA
Gesellschaft für Lüftungsformteile mbH



Synthetic material ventilation systems have many advantages and can be used almost everywhere

VENTILATION SYSTEMS MADE OF SYNTHETIC MATERIAL

The use of thermoplastic polymers in ventilation systems has a long tradition. The application fields continued to expand for many decades, especially due to the positive experiences in terms of workability, chemical resistance and operating efficiency.

Because of the outstanding properties of the individual plastic materials, ventilation systems made of synthetic materials can be used almost everywhere.

Classical application fields are:

- Laboratories
- Chemical industry
- Clean room industry
- Surface fi nishing (caustic, electroplating)
- Hospitals
- Chlorine industry

Nowadays, these fields can be easily equipped with plastic pipes.

Taking the relatively low system costs of standard thermoplastics such as PVC, PP or PE as basis, there is very often a clear economic advantage compared to metal solutions with the same property profi les.

THE ADVANTAGES AT A GLANCE

Chemical resistance to aggressive substances
Owing to their proven high resistance, the various synthetic materials are particularly well-suited for industrial applications in the chemical industry, the pharmaceutical industry, electroplating plants or the solar industry, etc., and guarantee a high level of security and long operating life, depending on the concentration of chemicals, the temperature and the pressure.

Low weight
The low dead weight of synthetic material makes it easy to transport and handle during assembly

Corrosion resistance
Thanks to the corrosion resistance and the excellent properties of the individual materials, a ventilation duct made of synthetic material has a much higher service life.

Operating efficiency
Operating efficiency is particularly emphasized by the long service life, easy processing and the simplified manufacturing process (e. g. injection moulding) of the individual materials. Plastics engineering also makes it very easy to expand and repair existing systems. Consequently, this results in a clear advantage over a metal solution.

Less danger to humans and the environment
The individual components are bonded using a suitable welding process which demonstrates a 100% leak tightness when done professionally, thus causing less dangers to humans and the environment.

Lower maintenance costs
Incrustations (deposits) are the result of carried suspended solids. The surface of the synthetics formed parts is smooth, which reduces the adhesion of such substances and also reduces the necessity of cleaning and servicing entire plants at frequent intervals

Environmental protection
Thermoplastics are 100% recyclable.
All waste matter is ground finely and homogeneously before being recycled. Synthetic materials can be easily recycled in many different ways with minimum power consumption. Hence, natural resources are used multiple times. This is one of the reasons why plastics are used in many new areas of application, representing all ranges of material of the 21st century. From an ecological and economical perspective synthetic material is the substance of the future.

MATERIALS
PVC, PPS, PP-EL-S, PP, PE, AND PVDF

Material	Short profile	Property profile	Processing & use
PVC – U	The material *polyvinyl chloride*, also called rigid PVC, is an unplasticized amorphous thermoplastic. PVC is characterised by its high chemical resistance and is self-extinguishing after flame withdrawal. Further material characteristics are its high stability, rigidity and dimensional stability. In the area of ventilation, PVC is primarily chosen for interior use.	• Density (specific weight): ≈ 1.42 g/cm³ • High chemical resistance: resistant against organic acids and lyes • Burning behaviour: self-extinguishing outside of flame • Operating temperature: 0 to +60°C • High resistance and rigidity • High corrosion resistance • Good electrical insulation	• Plastics welding • Can also be bonded for diameters up to 250 mm • Used primarily for interiors, conditional use for outdoors as well
PP	The material *flame resistant polypropylene* is characterised by its high chemical stability and low density. Typical for the material is its high temperature stability in connection with flame resistance. PPs are further characterised by good surface hardness and good electrical insulating properties. In the area of ventilation, the material is suitable for interior use.	• Density (specific weight): ≈ 0.95 g/cm³ • High chemical resistance: resistant against solvents and alcohols • Burning behaviour: flame resistant • Operating temperature: 0° to +90°C • High corrosion resistance • Hydrolysis resistant (hot water or water vapour) • Good electrical insulation	• Plastics welding • Polypropylenes are non-polar materials (lack of surface tension) and can only be bonded by using expensive adhesive systems with a sufficient adhesive quality • Suitable for interior use
PP-EL-s	The material electrically *conductive, flame resistant polypropylene* is characterised by the good property profile of PPs together with the electrical conductivity. The PPs are provided with specifically conductive particles for this purpose. The material is used in explosion-proof rooms.	• Density (specific weight): ≈ 1.23 g/cm³ • High chemical resistance: resistant against solvents and alcohols • Burning behaviour: flame resistant • Temperature stability: 0 to +80°C • Electrically discharging • High corrosion resistance • Hydrolysis resistant (hot water or water vapour) • Electrically conductive	• Plastics welding • Polypropylenes are non-polar materials (lack of surface tension) and can only be bonded by using expensive adhesive systems with a sufficient adhesive quality • Used primarily for interiors, conditional use for outdoors as well
PP	The material *polypropylene* is characterised by a high chemical stability as well as very good stress cracking resistance and a good heat distortion point. The material also demonstrates high rigidity, hardness and strength.	• Density (specific weight): 0.95 g/cm³ • High chemical resistance: resistant against solvents and alcohols • Temperature stability: 0 to +80°C • Burning behaviour: normal flammable • High corrosion resistance • Hydrolysis resistant (hot water or water vapour) • Good electrical insulation	• Plastics welding • Polypropylenes are non-polar materials (lack of surface tension) and can only be bonded by using expensive adhesive systems with a sufficient adhesive quality • Suitable for interior use
PE-HD (PE 100)	The material *polyethylene* is characterised by its high tightness and rigidity even at low temperatures. PE-HD is of high chemical stability. Above all, the material is UV resistant and can also be used at temperatures below freezing.	• Density (specific weight): 0.95 g/cm³ • High chemical resistance • Temperature stability: -50 to +70°C • Burning behaviour: normal flammable • UV stabilised • Hydrolysis resistant (hot water or water vapour) • Good electrical insulation	• Plastics welding • Polypropylenes are non-polar materials (lack of surface tension) and can only be bonded by using expensive adhesive systems with a sufficient adhesive quality • Can be used for interiors and outdoors
PVDF	The material *PVDF* belongs to the fluoric polymers and is characterised by its very high chemical resistance, even at higher temperatures. The material demonstrates high rigidity and is insensitive to UV radiation. This results in a very good age resistance in the air environment. The raw material we process is FM 4910 certified. This means that our products can also be used in clean rooms.	• Density (specific weight): 1.78 g/cm³ • High chemical resistance: resistant against halogens and other oxidizing agents • Burning behaviour: flame resistant according to DIN 4102 B1 • Operating temperature: -30° to +120°C • UV resistant • Corrosion resistance • Good electrical insulation	• Plastics welding • Bonding is only possible with a specific adhesive process • Can be used for interiors and outdoors

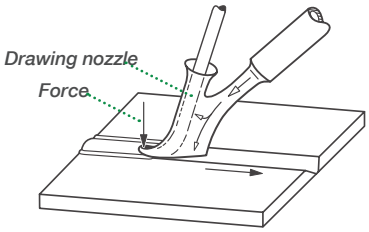
JOINING TECHNIQUES
OF SYNTHETIC MATERIALS

Plastics welding is the most professional and secure bond

A welded connection is the result of liquefying thereby fusing bonding parts composed of compatible plastics.

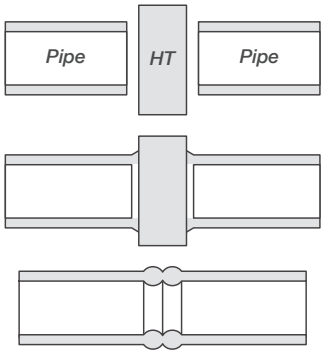
Hot gas welding

For hot gas welding, a fi ller metal (e. g. a profi le or round wire) is added to the joint zone through a channel in the nozzle. The joint surface of the base material and the filler metal are plasticised by hot gas, usually air. The beak-shaped attachment at the end of the nozzle applies the necessary joining pressure. The nozzle guide evenly pre-heats and plasticises the base material and the filler metal.



Heated tool butt welding

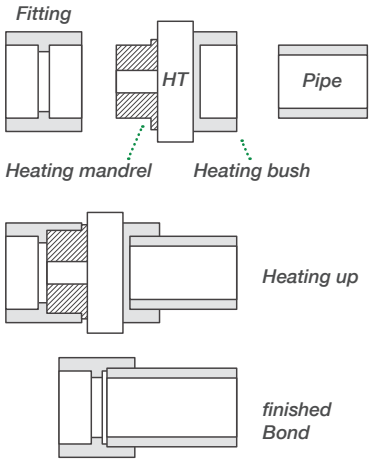
The front ends of the pipes are heated by a heated tool (HT) placed between both work pieces and then bonded under pressure after the heated tool is removed. The pressure is maintained until the components have cooled off completely.



Heated tool socket welding

An overlapping connection is generated by heated tool socket welding. First, the inside of the fitting must be thoroughly cleaned and the welding surface of the pipe must be appropriately processed with a blade.

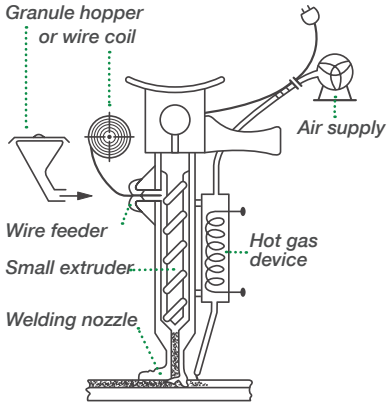
The heated tool used here (HT) is socket- or connector-shaped and heats both surfaces which are then subsequently bonded by pressure. The welding tool is heated in the process. To heat the parts to be bonded, the fitting and the pipe are pushed onto the connector-shaped heated tool, abruptly removed from the heated tool at the end of the heating period and then pushed together up to the stop. The welded parts remain fixed until they have cooled down.



Hot gas extrusion welding

This type of welding is used, among others, for bonding thick-walled parts by using a similar fi ller metal. The extrusion welder is a welder consisting of a small extruder as plasticising unit that may be driven by an electric motor.

It is welded with a filler metal similar in type and moulding material, which plasticises homogeneously and completely. The joint surfaces are heated by hot air to the welding temperature and a welding nozzle distributes and presses on the extruded mass. The plasticising depth is 0.5 - 1.0 mm, thus achieving shorter working times and greater mechanical strength properties at higher weld quality and low internal stress as compared to hot gas welding.



Bonding

Pipes and PVC formed parts can also be bonded together using special adhesive systems. The surfaces of both PVC parts are partially dissolved and are then joined inseparably after drying (cold welding process).

We recommend using this process only for diameters up to 250 mm.
Moreover, a welded joint should always be preferred over an adhesive bond if technically feasible.