

AKUplastics

Your supplier

Machinery & Equipment



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Our profile

With years of experience in sales and processing of thermoplastic semi-finished products, we have become a significant Austrian provider of complete solutions for the entire processing industry.

From our headquarters near Melk on the Danube, we supply and support the domestic market as well as our customers in Western Europe, Hungary, and Southeast Europe. Our two warehousing subsidiaries in the Czech Republic and Slovakia are responsible for their respective markets as well as other Eastern European countries.

Our products are used in various sectors such as:

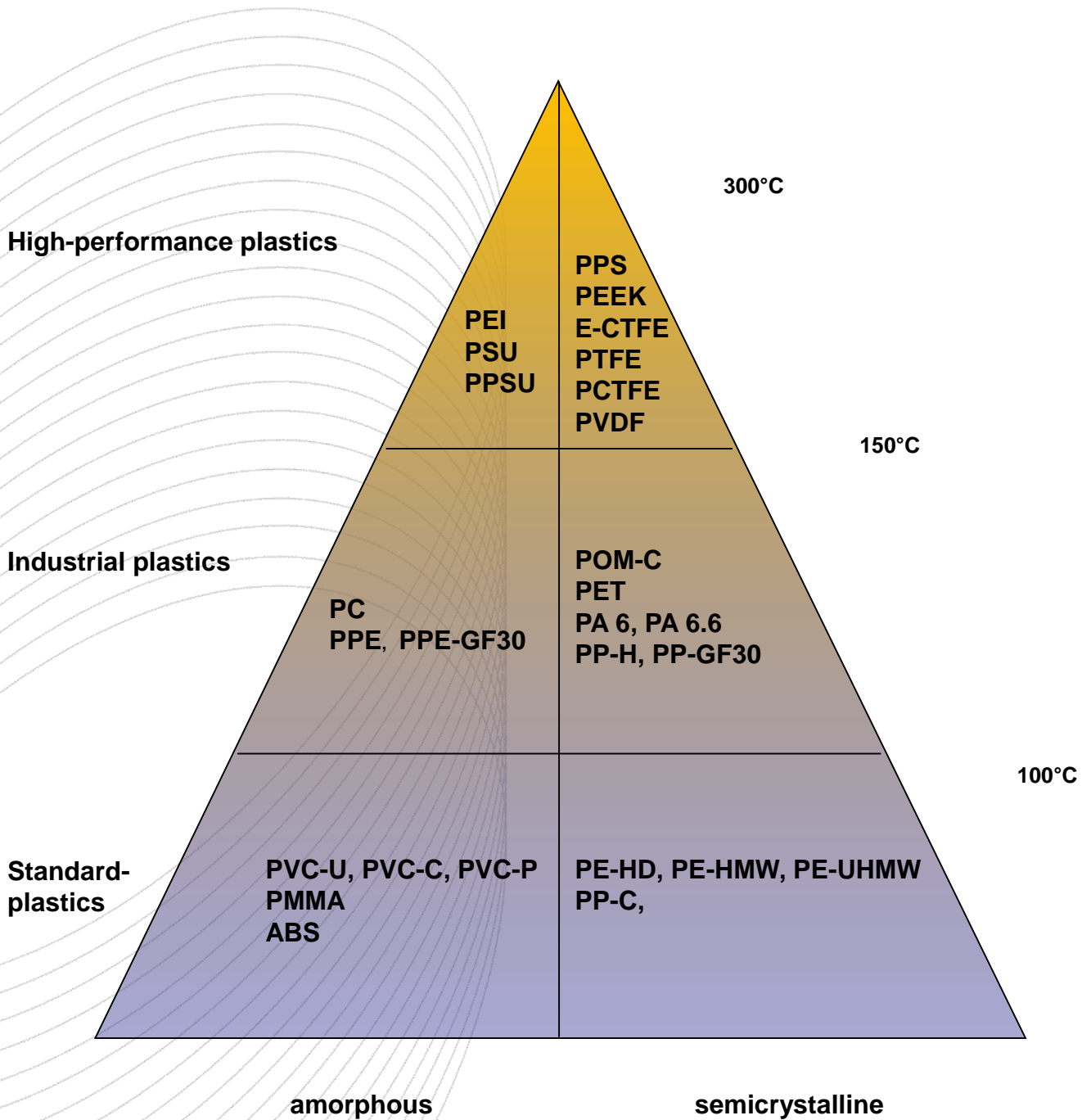
- Chemical industry
- Tank and plant construction
- Semiconductor industry
- Apparatus engineering
- Electrical and electronic industry
- Mechanical engineering
- Storage, lifting, and conveying technology
- Textile machine construction
- Automotive industry and vehicle construction
- Food industry
- VisCom applications
- Medical technology
- Nuclear technology
- and many other areas.

A balanced product range, ranging from semi-finished products such as sheets, solid and hollow rods, hexagonal rods, flat bars, standard profiles, welding wires, and sight glasses to machined finished parts as well as ventilation fittings and processing machines for welding and bending technology, clearly demonstrates this.

Through continuous examination and expansion of our supplier base, we are able to offer the best quality at fair prices.

As permanent market observation and societal changes require a rethink in solutions, semi-finished products based on biopolymers and recyclates are now being produced worldwide for the first time.

Materials



This overview provides a selection of the materials available on the market and obtainable from us, and it does not claim to be exhaustive.

Hot air welding machines

Our hot air/warm gas welding machines are characterized primarily by their excellent build quality, robustness, and outstanding price/performance ratio.

They have a flexible range of applications, spanning from the classic welding of plastics in container and apparatus construction to insulation technology and the automotive industry.

We offer machines of different performance classes, some with integrated air blowers in the handle and others designed to be operated with external air supplies such as blowers, side channel compressors, or compressors.

The heating power can be continuously regulated depending on the model, with the temperature electronically maintained at the set level.

For use on construction sites and in workshops, we have various smaller, handy, and portable air supply devices in our range that provide the required welding air.

With a wide range of matched welding nozzles for different welding processes and various wide-slot nozzles made of Solingen steel, these devices can also be used by other industries to achieve excellent results.

For optimal processing and welding, we also have the suitable plate materials and welding wires available.

In hot air welding, round wires with diameters of Ø3, 4, or 5 mm or welding additives in various triangular shapes are typically used.

We supply these, standardized according to DVS, depending on the material, on coils, in bundles, or as welding rods of the highest quality.

Hot air welding machines



Hot air welding automats

For manufacturers of tarpaulins, insulation companies, or flooring installers, we offer highly efficient and maneuverable hot air welding machines.

These powerful machines are specially designed for welding heavy-duty truck tarpaulins, tent fabrics, and coated awning fabrics.

They create overlap seams of either 20, 30, 40, or 45 mm. The welding machine can also be supplied as a webbing or rafter welding machine, or in a slightly modified form for welding floor coverings.

The heating power is electronically controlled from 20 to 700 °C, allowing it to be individually adjusted to different materials.

After the welding head is swung in, the welding machine starts automatically.

The additional cold stage allows the blower to cool down after the work is finished without adjusting the previously selected temperature.

Speed control is infinitely variable from 0 to 19 m/min, enabling optimal welding results.

A secure pressure of the film or tarpaulin to be welded is ensured by a three-point support of the machine.

To prevent the tarpaulins from warping, the devices are equipped with a clamping device on the side of the machine housing.

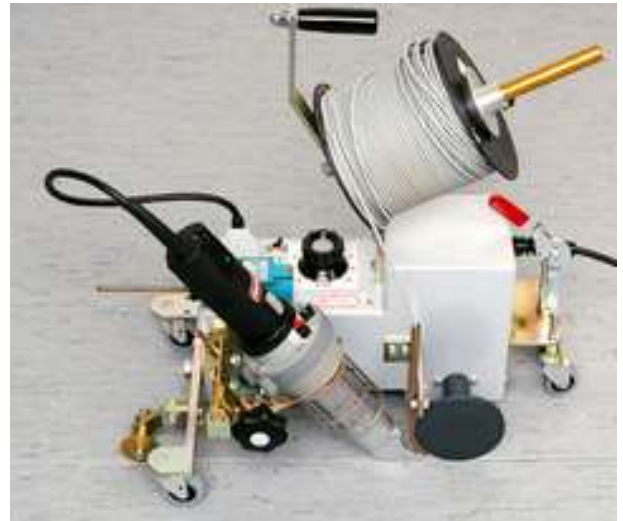
Welding performance from practice:

Tarpaulin fabrics: 6 - 8 meters/min.

Webbings: 3 - 4 meters/min.

Mesh film: 10 -12 meters/min.

Hot air welding automats



Air heaters

Air heaters have numerous applications in industry. They are used on conveyor belts, processing machines, and production lines, where the hot air they generate is utilized for activating, shrinking, drying, and shaping.

These heaters are multi-stage switchable and can be equipped with different heating capacities ranging from 230V or 400V up to a maximum of 650°C.

For operation, an external air supply (blower, side channel blower, or compressor) is required.

The necessary air volume ranges from 500 to 1500 liters/min, depending on the nozzle.

The use of external air supply allows for continuous operation, making it possible to mount air heaters on conveyor belts and in machines.

They are also used in heating channels and various other devices.

If necessary, the air outlet can be modified with various attachment nozzles.

This allows the airflow to be concentrated and adjusted for individual solutions.

Depending on the model, the air outlet can be spread, centered, or adjusted for specific applications using up to 300 mm wide wide-slot nozzles.

Air heaters



Welding extruders

Extrusion welding of polyolefins such as PE-HD, PP-H, PP-C, or halogen-containing materials like PVC-U and PVDF is easily achievable thanks to the electronic regulation of the melt temperature and precise temperature measurement directly at the screw tip in the melt.

Our welding extruders are available in power classes ranging from 0.8 to 5 kg/h (PE-HD) and feature actual and setpoint display of the melt temperature as well as cold start protection.

The wire feed is facilitated by a patented internal, wear-free, and maintenance-free feeding system without external aids.

All our welding extruders come with preheated welding air and can be equipped with or without an air blower. Devices with an air blower are particularly suitable for on-site assembly work.

Devices used in landfill areas can also be supplied as granulate extruders, where granules with a particle size of up to approximately 3 mm can be used.

Welding wires for extrusion welding are exclusively used as round wires with **diameters of Ø3, Ø4, or Ø5 mm**, depending on the device model and its welding performance.

These "endless" welding wires on spools or in coils can be obtained from us in the highest quality and in accordance with applicable DVS regulations.

Welding extruders



Sheet bending devices & machines

Warm bending of plastic sheets is a well-known delicate process, as process-induced stresses are often frozen during bending and subsequent cooling.

Besides preventing premature plate breakage, achieving visually appealing bends and durable, clean edge welds is essential. This is accomplished using fully electronic control and regulation of heaters in conjunction with precise guides for the respective heating elements.

Our products range from simple and cost-effective table heating strips for occasional work to all-around machines and semi- to fully automatic bending machines used, for example, in the production of ventilation ducts. Certain machines are also suitable for the production of U-profiles (cover profiles for load-bearing steel reinforcements in tank construction).

Plates made of PE-HD (PE 63/80/100), PE-HMW, PE-UHMW, PP-H/-B/-R, PVC-U, PVC foam, PVDF, PS, PET, PMMA, and PC can be processed.

We offer devices with non-contact radiant heating, contact heating, or immersion heating swords.

Non-contact heating with under heating or under and upper heating is suitable for bending transparent materials such as PVC-U, PMMA, PC, and PET.

Contact heaters, although faster in heating, always leave marks on the surface of the plate and are typically used with technical materials.

Immersion heating swords are used for edge welding of PE, PP, and PVDF plates to achieve a sharp-edged bend with simultaneous welding.

The possible working widths range from 0.5 to 4 m. Depending on the machine/device type, bending capacities for plate thicknesses of 0.3 to 30 mm are possible.

Sheet bending devices & machines



butt welding machines

Machine processing through butt welding of plastic sheets is easily achieved with our products.

We have already realized working widths ranging from 1 to 12 m (!) and thicknesses from 2 to 200 mm, which pose no problems for us.

Materials such as PE-HD (PE 63/80/100), PE-HMW, PE-UHMW, PP-H/PP-C, PVC-U, PVC-C, PVC-P, and PVDF, as well as other weldable materials (available upon request), can be welded.

Our sheet welding machines feature durable machine technology, proven industrial electronics and pneumatics, and easy operability.

They are available as semi-automatic, fully automatic, and manual models.

The reproducibility of welding parameters required by DVS is permanently maintained at the highest level.

All data recording is performed by PLC with an integrated printer in the case of fully automatic machines.

Data can be later retrieved and archived via an interface.

Some models are modularly designed so that individual solutions such as the production of T-joints or the rounding of sheets to form round containers are also possible subsequently.

We place particular emphasis on an attractive price/performance ratio.

butt welding machines



Testing equipment

The proper processing of plastics often requires testing of weld seams, the materials used, as well as various processing operations.

In addition to non-destructive high-frequency spark testers for testing weld seams, high-voltage DC-based testers with the advantage of finer adjustment are also available.

These spark testers are used in tank construction for hot air and extrusion welding but also find application in density testing of civil engineering insulation (bridges, flat roofs, etc.) as well as landfill liners.

Some testers offer particularly fine adjustment capabilities, allowing for leak testing of coatings with a thickness as low as 7.5μ .

Testing of test channels, as predominantly required for landfill liners, can be performed using an air channel test device.

This device is characterized by its simple handling and stable construction.

To quickly and easily test weld seams of foil on construction sites using peel tests, we offer special, handy, lightweight, and, above all, robust test devices.

Bend tests of weld seams, as required by EN guidelines or the German Welding Society (DVS), can be performed with a specially designed bending angle tester.

This allows for quick testing of weld seam strength in sheet materials made of PE-HD, PP-H, PVC-U, PVDF up to 30 mm thick internally within the company.

Testing equipment



Welding mirror

Hand-held welding mirrors offer an affordable and flexible entry into plastic processing, enabling easy butt welding of pipes, molded parts, and sheet materials.

Depending on the device type, socket welding devices, i.e., welding mirrors with interchangeable mandrels and bushes for socket welding of pipes with molded parts, are available.

The typical user of these devices is the water and heating installer.

The various sizes and designs allow for flexible and individual use of the handy devices.

All welding mirrors are non-stick coated and available in round and square shapes.

The square welding devices are additionally equipped with a beveled upper edge for bending sheet material.

An electronic control or thermostat regulation, as well as an on/off switch with mains control, control lamp for heating intervals, are integrated into the handle and complete the device.

A table mount is included in the scope of delivery, and suitable cases can be optionally purchased.

For contact-based heating, we also supply custom-made straight welding mirrors up to 3000 mm in length or split ring welding mirrors for welding district heating jacket pipes in various designs and sizes.

External controls provide a high level of flexibility. High-quality PTFE coatings significantly extend the service life, and the workpieces can be optimally heated.

Welding mirror



Air compressors & blowers

The quality of welding air for plastic welding is precisely regulated by the DVS. Welding air must be absolutely free of grease, dust, and dry.

Compressed air from central supply systems does not meet these strict requirements without considerable technical and financial effort.

External air compressors are always the better and more cost-effective solution.

In addition to simple portable air compressors for connecting up to 2 hot air welding devices with or without air flow meters, we also supply side channel blowers in workshop design for multiple welding devices or for connecting a welding extruder.

For larger systems, we offer grease-free high-pressure blowers, which are particularly noise-damped and maintenance-free.

Our medium-pressure blowers, specially designed for use with air heaters, are characterized by high performance with a compact design.

The power grading has been specifically tailored to the respective needs. This also enables long service life with low operating costs.

Excellent efficiency, favorable noise behavior, and a stable and aerodynamically favorable housing design, which is also maintenance-free and oil-free, round off the overall picture.

Upon customer request, the blowers can also be supplied with frequency converters for speed control.

In the standard version, the blowers are equipped on the suction side with a stainless steel filter, which can be reused after cleaning with compressed air.

Air compressors & blowers



Welding nozzles

To properly weld thermoplastic materials using hot air or warm gas and auxiliary wires, the use of suitable welding nozzles precisely tailored to the device and application is necessary.

Both high precision in nozzle manufacturing and distortion-free stainless steel, in conjunction with our welding devices, ensure successful results.

We offer an extensive range of various welding nozzles in screwable (M10 thread) or plug-in versions.

Round nozzles for fan welding, tack nozzles, or nozzles for extrusion welding (quick welding nozzles) of round wires or variously shaped triangular wires are available.

For all our welding devices, we also provide matching wide slot nozzles in various designs and sizes.

However, the use of specific nozzles in conjunction with air heaters or hot air welding devices is not only aimed at welding thermoplastics but also enables:

- Removal of old paint and varnishes
- Drying of non-flammable surfaces
- Heating of thermoplastics for shaping or bending
- Shrinking of labels
- Activation of adhesives
- Dissolution of adhesive bonds based on solvent-free hot-melt adhesives.

Welding nozzles



Auxiliary equipment

To optimize the results of welding processes, we offer comprehensive accessories for the refinement of weld seams.

This post-welding refinement is prescribed in the DVS guidelines, as is the preparation of welding wires.

For this reason, we provide groove planes, weld seam planes, quarter or half-moon knives, drawing blades, and scrapers for deburring seams, as well as weld seam milling cutters.

These innovative weld seam milling cutters allow for very simple, clean, and faster post-processing of seams.

Cost-effective devices are available for inside corner seams at 90° or 120°, flat V, X, or butt weld seams, outside corner seams at 270°, or for seam preparation at 90° or 180°.

Other angles are possible upon request.

For manufacturers of car covers or installers of insulation foils, we offer various silicone pressure rollers in different widths, optionally equipped with or without ball bearings.

Special welding wire stands, which facilitate the easy and precise unrolling of welding wires from coils or spools, especially for extrusion welding, and also serve for storing the welding wires, are also available.

Auxiliary equipment



Semi-finished products - Delivery Overview



Plates and bars made of
PA 6, PA 6.6, PA 6.6 GF30



Plates and bars made of
POM-C, POM-ESD, POM-AS



Plates and bars made of
PET (PETP)



Plates and bars made of
PVC-U, PVC-C



Plates and bars made of
PP-H, PP-C



Plates and bars made of
PE-HD (PE80, PE100), PE-UHWM



Plates and bars made of
PEEK, ECTFE, PCTFE, PTFE, FEP, PFA



Plates and bars made of
ABS



Pipes and bars made of
PMMA



Standard profiles and shaped pipes made of
PVC-U, PE-HD, PP



Pipes and bars made of
transp. PVC-U



Plates and bars made of
PC (Industriequalität)



AHLBORN KUNSTSTOFFE

Mürfelndorf 10
A-3650 Pöggstall / Austria

t: +43 (0)2758 34994-0

f: +43 (0)2758 34994-4

e: office@akuplastics.com