The Quality

Perfect individual components alone do not make any sense

The Theysohn Group is a pioneer in the extrusion industry. It is the only company in the world which supplies processed-optimized extrusion lines developed and manufactured on its own. Theysohn in Germany, Austria, India, USA and Russia, forming Theysohn Group, are seen as leading companies in PVC extrusion technology with excellent expertise in profile, pipe and siding extrusion know-how. We have successfully realized largest turnkey-projects worldwide and we provide excellent service. One of the major advantages is that extruders, downstream equipment, tooling as well as screws and barrels are manufactured within the group, so we can offer perfect solutions from one source, in order to keep your production on track.

Theysohn
50 years of experience

The Theysohn Group is a pioneer in the extrusion industry. Our roots date back to more than 50 years to one of the first companies to manufacture extrusion lines in Europe. Two experienced and well set production plants in Europe and one in India are operated to guarantee powerful know-how and capacity.

Theysohn is the only company in the world which supplies processed-optimized extrusion lines (PVC extrusion and Compounding) developed and manufactured on its own.

Many companies claim they can build perfect components for extrusion lines, but what about the perfect interaction of these components operating as a whole? Theysohn understands the entire extrusion process and technology, and aligns the individual components to precisely harmonize with each other.

With respect to complete systems, the extrusion lines concentrate on using PVC as the material for manufacturing profiles, pipes, sidings and sheets. In addition to complete facilities, the group of specialists also produces all individual components such as extruders, profile and pipe tooling and downstream equipment.

THEYSOHN Extrusionstechnik
Salzgitter, Germany

Theysohn in Salzgitter, Germany, is responsible for controlling the heart and soul of the extruder, namely the processing units. The production plant also manufactures replacement, single and twin screws as well as the accompanying barrels for extruders as well as for other materials in addition to PVC, and on behalf of other extrusion producers and injection molding machines.

Moreover, the Theysohn Salzgitter site also develops TSK compounding extruders for producing filled or reinforced plastics, additive or color master batches, for alloying and degassing plastics and for applications in the field of reactive extrusion.
The All-in-One-Supplier

We offer more than just an extruder:

- Complete extrusion lines for PVC and C-PVC Pipes
- Complete extrusion lines for PVC profiles
- Compounders for high torque, high volume applications
- Compounders for modification of plastics
- Complete production lines for pelletizing
- Compounders for powder coating formulations
- Complete extrusion lines for WPC extrusion
- Replacement screws and barrels (for all types and trade marks)
- Refurbishment of screws and barrels (for all types and trade marks)

THEYSOHN Extrusionstechnik
Stockerau, Austria

Theysohn in Stockerau is the competence center for counter-rotating twin-screw extruders and the conceptual design of complete pipe and profile extrusion facilities.

With its new ergonomically designed and all new, technically upgraded extrusion line, Theysohn sets new standards with respect to efficiency, productivity and reliability.

The Theysohn group also developed technology for 3-layer pipes (foam or compact core from recycling material), C-PVC pipes and Co-extrusion for any PVC profiles and pipes.

Theysohn counts as the world’s most important profile and pipe producers internationally.

THEYSOHN Extrusionstechnik
Pune, India

An entire team of specialized companies is operating at two different locations in Austria and Germany to manufacture top-notch machinery and components.

The plant in Pune, India produces extruders and downstream equipment for the Indian market.

Theysohn in Pune, India is responsible for serving the Asian and East African markets.

THEYSOHN Extrusionstechnik
USA and Russia

The sales teams in Fort Worth, USA and in Moscow, Russia are guaranteeing the best services for our customers in North America and in Russia and CIS countries.
Theysohn XTS Profile and Pipe Extruder

The Theysohn XTS series represents the newest technology in parallel twin-screw extrusion. The XTS series meets increased customer demands on processing and flexibility for extrusion. Highest melt quality is achieved with proven and reliable 36D long processing units. Modular barrel and screws allow 26, 28, 32 and 36D long plastification units depending on customers request.

XTS - PVC extrusion
Output guarantee for PVC window profile: 80 - 760 kg/h
Output guarantee for rigid-PVC profile: 80 - 840 kg/h
Output guarantee for rigid-PVC pipe: 120 - 1200 kg/h
Output guarantee for rigid-PVC Pellets: 300 - 1500 kg/h
Output guarantee for high filled (PVC with CaCo³) Pellets: 600 - 1200 kg/h

Based on the renowned Theysohn extruders, a new range of extruders has been developed which stand out due to their further enhanced performance and improved energy efficiency. The well tested Theysohn-Torque-Master direct gearbox has been further upgraded and now requires even less power consumption. Four performance classes with twin-screw diameters of 88 to 138 mm construction and lengths of 26 up to 36D cover PVC profile and pipe manufacturing. The facility guarantees additional energy savings due to insulation of cylinder heating and integration of our new TCS Theysohn cooling system with axial ventilators in the extruder. All units in the extrusion line are synchronized to perfection with each other, and thus can be operated from the control panel TEC located on the extruder.
Optional: lined barrels with T5000 liner

front barrel nitrided
or T5000 lined
- barrel for longer life time
- liners are changeable

insulated heaterbands

intake barrel 32D

intake barrel 36D

Conical Extruder CON

The conical twin-screw extruders have been specially developed for the use of PVC-dry-blend and PVC-granules in low and medium output ranges. The conical extruders can also be used as co-extruders. These extruders are very flexible in production and have a cost advantage for lower output compared to parallel extruders.

CON - PVC extrusion
Output guarantee for PVC window profile: 30 - 220 kg/h
Output guarantee for rigid-PVC profile: 30 - 260 kg/h
Output guarantee for PVC pipe: 30 - 330 kg/h

TEC 5s - Theysohn Extruder Control System

The new Extruder Control System TEC 5s, developed in cooperation with Siemens, combines simple handling and an efficient control system in a unique way. An operating terminal optimized for heavy industrial usage enables a comfortable control of the whole extrusion line in combination with the modern HMI-Software. The TEC 5s Control System which is installed in all new extruders from Theysohn is finally available as retrofit kit exclusively for all Theysohn extruders.

Failure remote diagnosis

Telephone and internet support via failure remote diagnosis: A service expert from Theysohn supports you via internet and telephone with fault finding and clearing. The service technician will answer via telephone at once or will send an answer within reasonable time. Failure remote diagnosis offered by Theysohn has the following advantages: reduction of downtime, quicker software update, avoidance of expensive technicians at customers site.
Pipe Extrusion

PVC and C-PVC Pipe Heads

PVC Pipe Head Streamliner RKS/RKT
PVC Pipe Head RK

Theysohn developed the “RK Streamliner” pipe head with the following advantages:
- higher melt pressure after the torpedo and therefore a much better welding effect
- wider pipe diameter range for each pipe head
- modular system: use of die set of the nearest smaller pipe head
- fast mandrel exchange to adjust wall thickness of end product
- 30 – 35 % less volume of head reduces resistance time of material resulting in a reduction of stabiliser
- as single or twin pipe heads available

The new pipe heads “RK STREAMLINER” can be used for single and double strand extrusion. The PVC pipe head RK is still available.

Turn-key solutions and components for solid, co-extrusion and foam pipes in single and double strand production for
- compact pipes 16-710 mm
- dual strand compact pipes 16 - 250 mm
- 3-layer foam-core pipes 32-710 mm
- C-PVC hot water pipes 10-400 mm
- cable protection pipes 10-400 mm
- co-extruded rain gutter pipes 32-160 mm
- pressure, irrigation pipes and drainage systems

Pelletizing head GK

- for high filled PVC formulations and rigid PVC
- 120 - 2500 kg/h
- exchangeable die plates for different pellet sizes
- pellet cooling equipment
3-Layer PVC Pipes with recycling or foamed center layer

Coextrusion Pipe Head TW 250 Direct / TW 400 Direct
- TW 250 direct pipe range: 90-250 mm OD
- TW 400 direct pipe range: 200-400 mm OD
- with a foamed middle layer, weight savings up to 30% compared to compact pipes can be achieved
- up to 80% of the wall thickness can be made of regrind material, with minimum inner and outer pipe layers of 0.5 mm
- special formulations and customer assistance available
- co-extrusion die design for stripes on outside of pipe

Co-Extrusion Block TW 4-10 with RKS Pipe Head
3-layer sandwich structured pipes save up to 30% material costs. Foamed or low cost formulations containing regrind or lower levels of expensive pigments and stabilizers for the middle layer. Up to 80% of the wall thickness can be made of regrind material with minimum inner and outer pipe layers of 0.4 mm.

Pipe range: 40 - 710 mm OD
Profile Extrusion

Theysohn combines the know-how of all Theysohn companies to form the only „All-in-ONE“ supplier in the market.

Profiles are made from various formulations. In co-extrusion different materials are combined in sections of the Profiles; post co-extrusion applies soft-PVC lips or gaskets. Materials are PVC, PMMA, ASA as well as fibre loaded compounds (e.g. WPC). Special additional equipment for mixing, cutting, film application and other techniques to finalise a profile are part of our portfolio too.

Solutions for all profiles can be offered for PVC in foam applications in single layer and co-extrusion in single, double and quadruple strand production. Theysohn supply complete solutions for the production of rigid and foam PVC technical profiles, including co-extrusion options (e.g. ASA and PMMA), with various optical effects (e.g. inline printing) and film application. Additional features are direct and post co-extrusion of soft PVC elements like gaskets, lips and other components. Tooling concepts range from single to multiple strand solutions with line output up to 800 kg/h. Production technologies: Window, Door and cover panels, Rain gutter, Foam profiles, Wall panels, Skirting profiles, Cable ducts, Window sills, Curtain rail, Siding and Pipes.

WPC EXTRUSION

Material
WPC stands for wood polymer composite and is a mixture of 50 - 85 % fibre (e.g. wood, paper, ...), 15 - 50 % polymer (PVC, PP, PE) and 2 - 8 % additives (e.g. coupling agents, lubricants).

Areas of Application of Theysohn WPC Tools
- Hollow and solid profiles for decking, siding and fencing systems
- applications for WPC materials wood/PVC 50/50, wood/PP 70/30 or other customer-specific formulations
- profile-specific extrusion of up to 6 m/min pull-off speeds or of 600 kg/h output
- Turn-key solutions and components for decking profiles, fencing, skirting profiles, siding profiles, solid & coextrusion

THEYSOHN offers downstream up to 800 mm width (e.g. for panels)
Coextrusion

- Reduction of production costs!
- Coextrusion pipe head TW 250 Direct / TW 400 Direct
- Coextrusion for profiles and pipes (TW4-10 Coextrusion Block for 3 layer PVC pipes)
- PVC in solid as well as foam applications in single layer
- single, double and quadruple strand production
- different mounting solutions including retro-kit for existing profile extrusion lines

A) Pillar version for profile tools of all kind
For this type the extruders are positioned next to each other and the coextruder is mounted on a pillar.
This solution is also available as retro-kit for existing profile extrusion lines and can be mounted without big changes on the existing extruder.

B) Coextrusion for pipe- and siding production
Both extruders are positioned next to each other whereat the coextruder is mounted on wheels and can be moved easily. This solution is suitable for all existing extruders in various combinations.

Coextrusion of rain gutter with PVC or PMMA surface layer
XTS 88-26 with C0.32 Co-Ex
Siding Extrusion

For years now Theysohn is a specialist for siding extrusion. Siding is a very simple way to renew the cladding of houses and to improve thermal insulation.

PVC Siding

PVC Siding can be used for cladding of new constructions, remodelling and refurbishing of building, offices and villas. Because of an embossing roll which presses a relief effect into the hot sheet it can look like wood. An optional foil application unit provides a constant application of coloured films with a lot of different styles and colours being available making siding a perfect match to PVC window and door systems. 62% of all US homes are using Vinyl Siding due to 3 big advantages: zero maintenance, easy to handle and easy to apply.

Other advantages are a lower overall investment compared to wood, aluminium, brick and concrete. Simplicity to install, smoothing out uneven walls, repelling insects, impact resistance and lightweight. PVC Siding is Typhoon proven (with special designs up to 300 km/h).

Vinyl Siding Specialties
Vertical siding or soffit is used for covering the bottom side of a roof bulge coming in a solid or vented version. Other possibilities for the use of vertical siding are skirting boards or construction of agricultural stables.

Before installing siding to the house wall, a proper insulation in combination with moisture barrier should be installed. To further improve thermo insulation of walls, the back side of siding can be equipped with pre-manufactured foam sheets.

Extrusion process

A main extruder and a coextruder plastificate PVC dryblend with a dual manifold die forming a 2-layer flat sheet. An embossing roll presses a relief effect into the hot sheet followed by a calender with 2-4 chill rolls. Optional a foil application unit can be used. Exchangeable post forming calibrators are giving different profile shapes. A combination of slotters and punches are used for nail slots and ventilation holes. A belt puller and a special cut-off-press are used to reach an extrusion speed up to 55 m/min.

Turn-key solutions and components for co-extruded panel profiles and siding accessories:
- system engineering for 1/2" and 3/4" siding systems
- speed up to 55 m/min
- single and double strand
- inline film application
- automatic packaging
- palletizing
Screws & Barrels

Components for the plastic, food, chemical and rubber industry

The Theysohn Group has decades of experience in the designing and manufacturing of screws and barrels. These are sold under the Theysohn trademark.

Replacement screws and barrels from Theysohn increase the quality and the output of any extruder. Theysohn has outstanding experience in the design and development of plasticizing units, which are applied to our own range of machines as well as to replacement units (parallel or conical) for twin-screw extruders of all types on the market.

- screws for extruders and injection moulding machines
- single screw barrels, bimetallic barrels
- parallel and conical twin-screws and barrels
- repair service for screws and barrels
- precision components for machine building
- barrels and screw shafts for twin-screw extruders
- corotating twin-screw extruders
- side feeding units
- refurbishment of barrel and liner

Compounder

Theysohn compounder, the all-rounder - its advanced and proven technology enables the handling of all compounding operations:

- filled and reinforced plastic
- additives and color masterbatch
- alloying of plastic
- degassing of plastic
- reactive extrusion
- powder coatings
- food extrusion
Not only connoisseurs, but masters!
Many companies claim they can build perfect components for extrusion lines, but what about the perfect interaction of these components operating as a whole? THEYSOHN understands the entire extrusion process technology, and aligns the individual components to precisely harmonize with each other.

THEYSOHN relies upon its longstanding experience in extrusion technology and the basis of its competence centers, THEYSOHN has the expertise required to support customers in designing and building complete production lines and in taking full responsibility on the customers behalf.

THEYSOHN provides you with comprehensive support and can also deliver turnkey facilities, whether your needs involve engineered plastics, masterbatch, thermoplastic elastomers, food extrusion or powder coatings.

Theysohn Germany
John-F.-Kennedy-Straße 48 38228 Salzgitter, Germany
Tel.: +49 (0)5341 551 0
Fax: +49 (0)5341 551 102
Email: info@theysohn.de

Theysohn Austria
Josef-Sandhofer-Straße 4 2000 Stockerau, Austria
Tel.: +43 (0)2266 90505 2201
Fax: +43 (0)2266 90505 2202
Email: office@theysohn.at

Theysohn India
201, Power Point Building 6th Lane, Koregaon park Pune 411001, India
Tel.: +91 (0)20 261 53 118
Fax: +91 (0)20 261 53 119
Email: pune@theysohn.at

Theysohn Russia
p. Moscowsky, Kievskoe shosse 22km
build. 2 „G“, entrance 17, office 747 142784 Moscow, Russia
Tel.: +7 (0)495 9895879
Fax: +7 (0)495 9409389
Email: moscow@theysohn.at

Theysohn USA
6925 Tumbling Trail
Fort Worth TX 76116 USA
Tel.: +1 817 551 1119
Toll Free: +1 855 551 1119
Fax: +1 817 377 4921
Email: info@theysohnnorthamerica.com