

PVC Siding - High Potential - Safe Technology

Thinking about opportunities means to be open! The building sector is always looking for new solutions. The plastics industry also is seeking to expand their activities in this sector. What offers a closer fit than investing in extrusion of PVC siding profiles? Theysohn Extrusion – the leading supplier of Siding production technology in Russia and eastern Europe is offering turn-key-solutions up to a production capacity of 1500 kg/h per line. Dive into this matter and make your own judgment!

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Siding: A growing market segment

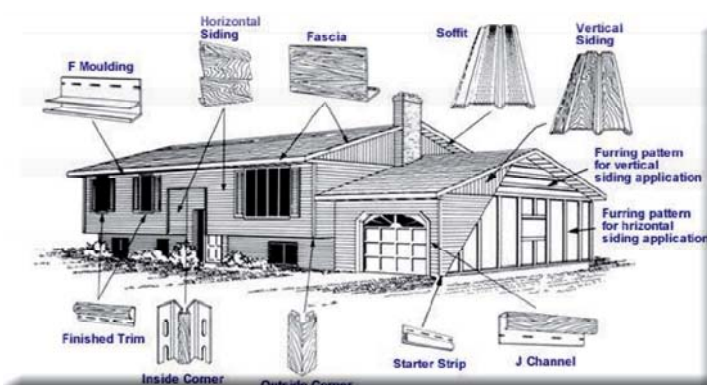
Siding is a well known technique to cover building outside structures and to fulfill certain functions like design, color and heat insulation. Currently used metal profiles are heavy in weight and expensive. Wooden profiles require periodical painting and cannot meet the required insulating values. PVC instead is a well known plastic substrate that has proven its capability to fulfill all required properties and therefore is an ideal solution for this sector.

Especially in building renovation outside PVC siding is an easy and cost-effective way to give facades a complete new look. Wooden surface appearance as well as plain profile shapes can be offered based on the style requested by the customer. In addition a large variety of colors are available. Siding can be installed easily without special tools or training, or even in a do-it-yourself project. The buildings can be private residential buildings as well as multiple story buildings. Referring to local building standards will show only small restrictions to use siding.

Variety of siding solutions for residential buildings

Siding – A glance into the technology

Talking about siding means to talk about an interaction between several technical applications for a final solution simply called - Siding. The technical application spans from the base raw material, PVC powder mixed with UV resistant stabilizer and other components like impact modifier etc. to a compound for a base layer (substrate) and a top layer (capstock) even from different materials, to a system of 10 – 20 differently shaped profiles, to the extrusion process itself to the final application onto the building.



System of profiles serving each section of building



Theysohn is offering their know-how ranging from system development, process engineering and production layout to material handling and mixing facilities, training and after sales-service. Therefore the whole project from first basic discussions to final production can be dealt with Theysohn.

Theysohn turn-key-package

- system engineering
- formulation engineering
- production site layout
- project management
- component manufacturing
- installation and take over
- training and optimizing
- after sales service

Extrusion – A secure technology

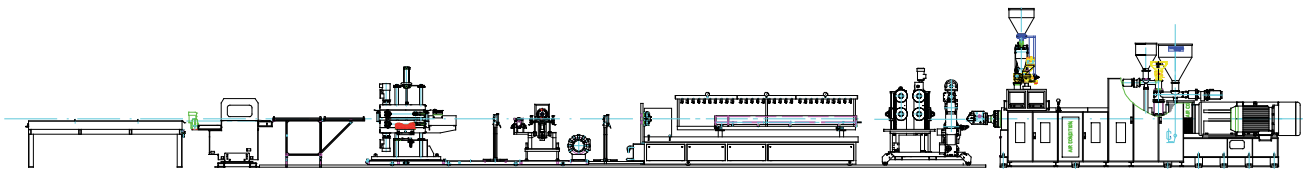
So the next questions on the road to expand business is, how to produce such a product. Theysohn extrusion technology an Austrian based company with more than 2 decades of know-how in the technology of extruding PVC into profiles (€ 500

Mio of extrusion technology shipped for 20 years) has a well set turn-key-concept. 22 extrusion lines (7 factories) have been successfully installed during the last years.

The Austrians are working professionally with own staff as well as combine own technology with some special components needed (e.g. mixers) to a total turn-key solution. Approx. 90% of the technology installed is Austrian origin and therefore well known and proven.

Extruding profiles needs a severe know-how beginning with the formulation and mixing of the components. High-quality siding profiles are typically made of two layers. The base layer of the profile, the substrate is extruded from PVC compound and has to be covered by a second top layer (capstock) of white or colored PVC or ASA (a PMMA-comparable derivate with highest resistance to withstand UV-radiation and weathering) for outside applications. Theysohn can offer formulations as well as the total know-how for component procurement, material handling, mixing and stocking. Therefore two extruders are working together to form the final siding profile.

Standard components of a modern siding extrusion line



A EXTRUDER

A wide scale of models (conical and parallel) offering an output range from 10 - 1400 kg/h.

- high torque gearboxes allow back pressure up to 600 bar
- high quality wear protection for screws and barrels
- high safety factors for gearboxes
- special screw design allocated to material specification
- colour feed systems for inline colour changes
- elliptic barrel shape and continuous temperature control of zone 5 ¹⁾²⁾
- water cooling or active screw core tempering system ¹⁾
- ceramic screwshaft coating ¹⁾
- levelling pads for ideal setting ¹⁾

¹⁾ unique Theysohn technical solution

²⁾ patents registered

B DUAL MANIFOLD DIE

Forms the hot melt of main and coextruder to a 2-layer flat sheet.

C EMBOSSER, DECORATIVE FOIL APPLICATION

An embossing roll presses a relief effect into the hot sheet (e.g. wood grain) followed by a calender with 2 - 4 chill rolls. An optional foil application unit provides a constant application of coloured films.

D CALIBRATION SYSTEM

A post-forming calibration system gives the flat sheet different profile shapes in single or dual strand.

E SLOTTOR EQUIPMENT

Slotters are punching nail slots and ventilation holes.

F PULLER

Belt or rollerpuller units cover the full range of profile shapes guaranteeing a constant haul-off speed.

- single and double strand
- synchronisation to extruder control system

G CUTTING UNIT

A cut-off press (flywheel system) is set to provide high speed cutting. Exchangeable crop-notch dies are used for panel profiles and slugless-cut-off dies for accessory profiles.

H RUN OUT TABLE

and/or packaging line

Final component is a table to stack siding profiles or an automatic packaging line.

- depending on output capacity single or double side operation
- automatic inline packaging for card-boxes or PE-film
- box palletizer

MATERIAL HANDLING

Different substances have to be handled and mixed to form a homogenous dryblend, conveyed to the extruder.

Mixer installation based on local climate conditions



Theysohn extrusion technology Siding production layout

extruders	capacity	yield siding
TTM 138/TTS 88	45 m/min.	12 m ² /Minute
TTM 118/CON 63	35 m/min.	8,5 m ² /Minute
TTS 108/CON 63	30 m/min.	7 m ² /Minute
TTS 88/CON 50	20 m/min.	5 m ² /Minute

Based on a customer-specified production layout all components necessary for a safe, cost efficient and profound production process will be provided, engineered, manufactured, shipped and installed by Theysohn. Take over runs of complete factories will be done at the final production location by skilled process engineers.



Extruder-setting (Main- and Coextruder) including die

All Theysohn siding technology is set out to fulfill the American ASTM-Standard for siding. Testing procedures are a part of the training sections and testing equipment can be provided by Theysohn as a part of the total turn-key project.



Investment studies available

In order to evaluate your individual project it would be necessary to make a first step evaluation followed up by a budget offer that is provided quickly. An investment into Siding with a the proven closed partnership with Theysohn extrusion is save and easy. The Theysohn philosophy is a clear guarantee to success: Partnership based on the two core figures reliability and efficiency is a mark up for a long term cooperation.

If you are interested do not hesitate to contact Theysohn Austria or one of our sales offices worldwide

A PARTNER TO LISTEN, WITH POWER TO SUPPLY

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